



DRAFT

ENVIRONMENTAL IMPACT REPORT

FOR THE

GLENN COUNTY GENERAL PLAN UPDATE
(SCH: 2022100620)

JANUARY 2023

Prepared for:

Glenn County
Planning & Community Development Services
225 N Tehama Street
Willows, California 95988

Prepared by:

De Novo Planning Group
1020 Suncast Lane, Suite 106
El Dorado Hills, CA 95762

D e N o v o P l a n n i n g G r o u p

A Land Use Planning, Design, and Environmental Firm



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DRAFT EIR

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PURPOSE

The County of Glenn (County) as lead agency, determined that the Glenn County General Plan Update (General Plan, or Project) is a "Project" within the definition of the California Environmental Quality Act (CEQA), and requires the preparation of an Environmental Impact Report (EIR). This Draft EIR has been prepared to evaluate the environmental impacts associated with implementation of the Project. This EIR is designed to fully inform decision-makers in the County, other responsible and trustee agencies, and the general public of the potential environmental consequences of approval and implementation of the General Plan. A detailed description of the proposed Project, including the components and characteristics of the Project, project objectives, and how the EIR will be used, is provided in Chapter 2.0 (Project Description).

AREAS OF CONTROVERSY AND ISSUES TO BE RESOLVED

This Draft EIR addresses environmental impacts associated with the Project that are known to the County, raised during the Notice of Preparation (NOP) scoping process, or were raised during preparation of the Draft EIR. This Draft EIR addresses the potentially significant impacts associated with aesthetics, agriculture and forest resources, air quality, biological resources, cultural and tribal cultural resources, geology, greenhouse gas emissions and energy, hazards and hazardous materials, hydrology and water quality, land use planning and population/housing, mineral resources, noise, public services and recreation, transportation, utilities and service systems, wildfire, and cumulative impacts.

The County received four written comment letters on the NOP. The County received comment letters from the following organizations and agencies:

- California Department of Transportation (Caltrans)
- California Department of Fish and Wildlife (CDFW)
- California Department of Toxic Substances (DTSC)
- Native American Heritage Commission (NAHC)

Copies of these letters and the NOP is provided in Appendix A of this Draft EIR.

ALTERNATIVES TO THE PROPOSED PROJECT

The CEQA Guidelines require an EIR to describe a reasonable range of alternatives to the Project or to the location of the Project which would reduce or avoid significant impacts, and which could feasibly accomplish the basic objectives of the proposed Project. The alternatives analyzed in this EIR include the following:

- **Alternative 1: No Project Alternative.** Under Alternative 1, the County would not adopt the General Plan Update. The existing General Plan would continue to be implemented and no changes to the General Plan, including the Land Use Map, Circulation Diagram, goals, policies, or actions would occur. Subsequent projects, such as amending the County Code

(including the zoning map), would not occur. The Existing General Plan Land Use Map is shown on Figure 5.0-1.

- **Alternative 2: Modified Project Alternative.** Under Alternative 2, the County would adopt the updated General Plan policy document, but would retain the existing land use map. This alternative would result in the same growth as the existing General Plan and Alternative 1, but would implement the updated goals, policies, and actions found in the General Plan Update. This Alternative would result in less residential and non-residential growth than the proposed Project. This alternative was developed to potentially reduce the severity of significant impacts related to agriculture, irreversible impacts, and further reductions in less than significant impacts related to biological resources, noise, public services, and utilities.
- **Alternative 3: Infill Development Agriculture Protection Alternative.** Under this alternative, the proposed Project would be developed in such a way as to protect lands currently identified as prime farmland and farmland of statewide importance, by reducing the overall footprint of the developable areas and focus development on infill opportunities and locations within existing unincorporated community SOIs and ULLs. For the purposes of this analysis it is assumed that future development buildout would generally exclude approximately 15 percent of the development footprint on lands designated as prime or farmlands of statewide importance that may currently be development with urban type uses. This Alternative would result in the least amounts of overall developable area, and would reduce overall development levels by approximately 15 percent when compared to the existing General Plan and Alternative 2.

A comparison of the proposed General Plan and each of the Project alternatives is provided in Table ES-1 below. The table includes a numerical scoring system, which assigns a score of 1 to 5 to each of the alternatives with respect to how each alternative compares to the proposed Project in terms of the severity of the environmental topics addressed in this EIR. A score of “3” indicates that the alternative would have the same level of impact when compared to the proposed Project. A score of “1” indicates that the alternative would have a better (or reduced) impact when compared to the proposed Project. A Score of “2” indicates that the alternative would have a slightly better (or slightly reduced) impact when compared to the proposed Project. A score of “4” indicates that the alternative would have a slightly worse (or slightly increased) impact when compared to the proposed Project. A score of “5” indicates that the alternative would have a worse (or increased) impact when compared to the proposed Project. The Project alternative with the lowest total score is considered the environmentally superior alternative.

TABLE ES-1: COMPARISON OF ALTERNATIVES TO THE PROPOSED PROJECT

<i>ENVIRONMENTAL ISSUE</i>	<i>PROPOSED PROJECT</i>	<i>ALTERNATIVE 1 (NO PROJECT)</i>	<i>ALTERNATIVE 2 (MODIFIED)</i>	<i>ALTERNATIVE 3 (AGRICULTURE PROTECTION)</i>
Aesthetics	3 – Same	4 – Slightly Worse	3 – Same	2 – Slightly Better
Agricultural Resources	3 – Same	2 – Slightly Better	2 – Slightly Better	1 – Better
Air Quality	3 – Same	4 – Slightly Worse	3 – Same	2 – Slightly Better
Biological Resources	3 – Same	4 – Slightly Worse	2 – Slightly Better	1 – Better
Cultural Resources	3 – Same	4 – Slightly Worse	3 – Same	2 – Slightly Better
Greenhouse Gases, Climate Change, and Energy	3 – Same	4 – Slightly Worse	3 – Same	2 – Slightly Better
Geology and Soils	3 – Same	4 – Slightly Worse	3 – Same	2 – Slightly Better
Hazards and Hazardous Materials	3 – Same	4 – Slightly Worse	3 – Same	3 – Same
Hydrology and Water Quality	3 – Same	4 – Slightly Worse	3 – Same	2 – Slightly Better
Land Use and Population	3 – Same	4 – Slightly Worse	3 – Same	3 – Same
Noise	3 – Same	3 – Same	2 – Slightly Better	3 – Same
Public Services and Recreation	3 – Same	3 – Same	2 – Slightly Better	3 – Same
Transportation and Circulation	3 – Same	4 – Slightly Worse	4 – Slightly Worse	3 – Same
Utilities	3 – Same	3 – Same	2 – Slightly Better	2 – Slightly Better
Wildfire	3 – Same	3 – Same	3 – Same	3 – Same
Irreversible Effects	3 – Same	4 – Slightly Worse	3 – Same	2 – Slightly Better
SUMMARY	48	58	44	36

Overall, Alternative 3 is the environmentally superior alternative as it is the most effective in terms of overall reductions of impacts compared to the proposed General Plan and all other alternatives. As such, Alternative 3 is the environmentally superior alternative for the purposes of this EIR analysis. Information related to alternatives and their respective impacts are described in Chapter 5.0 of this DEIR.

SUMMARY OF IMPACTS AND MITIGATION MEASURES

In accordance with the CEQA Guidelines, this EIR focuses on the Project's significant effects on the environment. The CEQA Guidelines defines a significant effect as a substantial adverse change in the physical conditions which exist in the area affected by the proposed Project. A less than significant effect is one in which there is no long or short-term significant adverse change in environmental conditions. Some impacts are reduced to a less than significant level with the implementation of mitigation measures and/or compliance with policies and regulations. "Beneficial" effect is not defined in the CEQA Guidelines, but for purposes of this EIR a beneficial effect is one in which an environmental condition is enhanced or improved.

The environmental impacts of the proposed Project, and the level of significance are summarized in Table ES-2.

TABLE ES-2: PROJECT IMPACTS AND PROPOSED MITIGATION MEASURES

<i>ENVIRONMENTAL IMPACT</i>	<i>LEVEL OF SIGNIFICANCE WITHOUT MITIGATION</i>	<i>MITIGATION MEASURE</i>	<i>RESULTING LEVEL OF SIGNIFICANCE</i>
AESTHETICS AND VISUAL RESOURCES			
Impact 3.1-1: General Plan implementation would not have a substantial adverse effect on the existing visual character or quality of public views, or on a scenic vista	LS	<i>None Required</i>	LS
Impact 3.1-2: General Plan implementation would not substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a State scenic highway	NI	<i>None Required</i>	NI
Impact 3.1-3: Project implementation would not conflict with an applicable zoning or other regulation governing scenic quality within an urbanized area.	NI	<i>None Required</i>	NI
Impact 3.1-4: General Plan implementation could result in the creation of new sources of nighttime lighting and daytime glare	LS	<i>None Required</i>	LS
AGRICULTURAL AND FOREST RESOURCES			
Impact 3.2-1: General Plan implementation may result in the conversion of farmlands, including Prime Farmland and Unique Farmland, to non-agricultural use.	PS	<i>Minimized to the greatest extent feasible through General Plan Policies and Actions. No feasible mitigation is available.</i>	SU
Impact 3.2-2: General Plan implementation may result in conflicts with existing Williamson Act Contracts	PS	<i>Minimized to the greatest extent feasible through General Plan Policies and Actions. No feasible mitigation is available.</i>	SU
Impact 3.2-3: Conflict with Existing Zoning of Forest or Timber Production.	LS	<i>None Required</i>	LS
Impact 3.2-4: Result in the Loss or Conversion of Forest Land.	LS	<i>None Required</i>	LS
Impact 3.2-5: General Plan implementation would not involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to	LS	<i>None Required</i>	LS

ENVIRONMENTAL IMPACT	LEVEL OF SIGNIFICANCE WITHOUT MITIGATION	MITIGATION MEASURE	RESULTING LEVEL OF SIGNIFICANCE
non-agricultural use or conversion of forest land to non-forest use.			
AIR QUALITY			
Impact 3.3-1: General Plan implementation may conflict with or obstruct implementation of the applicable air quality plan, or result in a cumulatively considerable net increase of criteria pollutants	PS	<i>Minimized to the greatest extent feasible through General Plan Policies and Actions. No feasible mitigation is available.</i>	SU
Impact 3.3-2: General Plan implementation would expose sensitive receptors to substantial pollutant concentrations	LS	<i>None Required</i>	LS
Impact 3.3-2: General Plan implementation would not expose sensitive receptors to substantial pollutant concentrations.	LS	<i>None Required</i>	LS
Impact 3.3-3: General Plan implementation would not result in other emissions (such as those leading to odors adversely affecting a substantial number of people)	LS	<i>None Required</i>	LS
BIOLOGICAL RESOURCES			
Impact 3.4-1: General Plan implementation could have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service	LS	<i>None Required</i>	LS
Impact 3.4-2: General Plan implementation could 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 California Department of Fish and Wildlife or U.S. Fish and Wildlife Service	LS	<i>None Required</i>	LS

ENVIRONMENTAL IMPACT	LEVEL OF SIGNIFICANCE WITHOUT MITIGATION	MITIGATION MEASURE	RESULTING LEVEL OF SIGNIFICANCE
Impact 3.4-3: General Plan implementation could have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means	LS	None Required	LS
Impact 3.4-4: General Plan implementation would not interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites	LS	None Required	LS
Impact 3.4-5: The General Plan would not conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance	LS	None Required	LS
Impact 3.4-6: General Plan implementation would not conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or State habitat conservation plan	LS	None Required	LS
CULTURAL AND TRIBAL RESOURCES			
Impact 3.5-1: General Plan implementation could cause a substantial adverse change in the significance of a historical or archaeological resource pursuant to Section 15064.5	LS	None Required	LS
Impact 3.5-2: Implementation of the General Plan could lead to the disturbance of any human remains	LS	None Required	LS
Impact 3.5-3 : Cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code Section 21074, and that is: Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code Section 5020.1(k), or a resource determined by the lead agency	LS	None Required	LS

ENVIRONMENTAL IMPACT	LEVEL OF SIGNIFICANCE WITHOUT MITIGATION	MITIGATION MEASURE	RESULTING LEVEL OF SIGNIFICANCE
GEOLOGY AND SOILS			
Impact 3.6-1: General Plan implementation has the potential to expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving rupture of a known earthquake fault, strong seismic ground shaking, seismic-related ground failure, including liquefaction, or landslides	LS	<i>None Required</i>	LS
Impact 3.6-2: General Plan implementation has the potential to result in substantial soil erosion or the loss of topsoil	LS	<i>None Required</i>	LS
Impact 3.6-3: General Plan implementation has the potential to result in development located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse	LS	<i>None Required</i>	LS
Impact 3.6-4: General Plan implementation has the potential to result in development on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property	LS	<i>None Required</i>	LS
Impact 3.6-5: General Plan implementation does not have the potential to have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water	LS	<i>None Required</i>	LS
Impact 3.6-6: General Plan implementation has the potential to directly or indirectly destroy a unique paleontological resource or site or unique geologic feature	LS	<i>None Required</i>	LS

ENVIRONMENTAL IMPACT	LEVEL OF SIGNIFICANCE WITHOUT MITIGATION	MITIGATION MEASURE	RESULTING LEVEL OF SIGNIFICANCE
GREENHOUSE GASES, CLIMATE CHANGE AND ENERGY			
Impact 3.7-1: General Plan implementation has the potential to generate GHG emissions that could 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	PS	<i>Minimized to the greatest extent feasible through General Plan Policies and Actions. No feasible mitigation is available.</i>	SU
Impact 3.7-2: General Plan implementation has the potential to result in a significant impact due to wasteful, inefficient, or unnecessary consumption of energy resources, or conflict with or obstruct a state or local plan for renewable energy or energy efficiency	LS	<i>None Required</i>	LS
HAZARDS AND HAZARDOUS MATERIALS			
Impact 3.8-1: General Plan implementation has the potential to create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials, or through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment	LS	<i>None Required</i>	LS
Impact 3.8-2: General Plan implementation has the potential to emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school	LS	<i>None Required</i>	LS
Impact 3.8-3: General Plan implementation has the potential to have projects located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5	LS	<i>None Required</i>	LS
Impact 3.8-4: General Plan implementation is not located within an airport land use plan, two miles of a public airport or public use airport, and would	LS	<i>None Required</i>	LS

<i>ENVIRONMENTAL IMPACT</i>	<i>LEVEL OF SIGNIFICANCE WITHOUT MITIGATION</i>	<i>MITIGATION MEASURE</i>	<i>RESULTING LEVEL OF SIGNIFICANCE</i>
not result in a safety hazard for people residing or working in the project area			
Impact 3.8-5: General Plan implementation has the potential to impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan	LS	<i>None Required</i>	LS
Impact 3.8-6: General Plan implementation has the potential to expose people or structures to a significant risk of loss, injury or death involving wildland fires	LS	<i>None Required</i>	LS
HYDROLOGY AND WATER QUALITY			
Impact 3.9-1: General Plan implementation could violate water quality standards or waste discharge requirements or otherwise substantially degrade water quality or obstruct implementation of a water quality control plan	LS	<i>None Required</i>	LS
Impact 3.9-2: General Plan implementation could result in the depletion of groundwater supplies, interfere substantially with groundwater recharge or conflict with a groundwater management plan	LS	<i>None Required</i>	LS
Impact 3.9-3: General Plan implementation could alter the existing drainage pattern in a manner which would result in substantial erosion, siltation, flooding, impeded flows, or polluted runoff	LS	<i>None Required</i>	LS
Impact 3.9-4: General Plan implementation would not release pollutants due to project inundation by flood hazard, tsunami, or seiche	LS	<i>None Required</i>	LS
LAND USE, POPULATION AND HOUSING			
Impact 3.10-1: General Plan implementation would not physically divide an established community	LS	<i>None Required</i>	LS
Impact 3.10-2: General Plan implementation would not cause a significant environmental	LS	<i>None Required</i>	LS

ENVIRONMENTAL IMPACT	LEVEL OF SIGNIFICANCE WITHOUT MITIGATION	MITIGATION MEASURE	RESULTING LEVEL OF SIGNIFICANCE
impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect			
Impact 3.10-3: General Plan implementation would not induce substantial unplanned 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)	LS	None Required	LS
Impact 3.10-4: General Plan implementation would not displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere	LS	None Required	LS
MINERAL RESOURCES			
Impact 3.11-1: General Plan implementation would not result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state	LS	None Required	LS
Impact 3.11-2: General Plan implementation would not result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan	LS	None Required	LS
NOISE			
Impact 3.12-1: General Plan implementation may result in exposure to significant traffic noise sources	LS	None Required	LS
Impact 3.12-2: General Plan implementation may result in exposure to excessive railroad noise sources	LS	None Required	LS
Impact 3.12-3: Implementation of the General Plan could result in the generation of excessive stationary noise sources	LS	None Required	LS
Impact 3.12-4: General Plan implementation may result in an increase in construction noise sources	LS	None Required	LS

<i>ENVIRONMENTAL IMPACT</i>	<i>LEVEL OF SIGNIFICANCE WITHOUT MITIGATION</i>	<i>MITIGATION MEASURE</i>	<i>RESULTING LEVEL OF SIGNIFICANCE</i>
Impact 3.12-5: General Plan implementation may result in exposure to excessive aircraft noise sources	LS	<i>None Required</i>	LS
Impact 3.12-6: General Plan implementation may result in construction vibration	LS	<i>None Required</i>	LS
Impact 3.12-7: General Plan implementation may result in exposure to groundborne vibration	LS	<i>None Required</i>	LS
PUBLIC SERVICES AND RECREATION			
Impact 3.13-1: General Plan implementation could result in adverse physical impacts on the environment associated with the need for new governmental facilities or the need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts and the provision of public services	LS	<i>None Required</i>	LS
Impact 3.13-2: General Plan implementation may result in adverse physical impacts associated with the deterioration of existing parks and recreation facilities or the construction of new parks and recreation facilities	LS	<i>None Required</i>	LS

<i>ENVIRONMENTAL IMPACT</i>	<i>LEVEL OF SIGNIFICANCE WITHOUT MITIGATION</i>	<i>MITIGATION MEASURE</i>	<i>RESULTING LEVEL OF SIGNIFICANCE</i>
TRANSPORTATION AND CIRCULATION			
Impact 3.14-1: General Plan implementation may conflict or be inconsistent with the VMT thresholds in the Glenn County SB 743 Implementation Plan.	LS	<i>None Required</i>	LS
Impact 3.14-2: General Plan implementation may disrupt existing or conflict with planned transit service and/or bicycle and pedestrian facilities.	LS	<i>None Required</i>	LS
Impact 3.14-3: General Plan implementation may increase traffic hazards due to inconsistency with applicable design standards.	LS	<i>None Required</i>	LS
Impact 3.14-4: General Plan implementation may cause inadequate emergency access.	LS	<i>None Required</i>	LS
UTILITIES AND SERVICE SYSTEMS			
Impact 3.15-1: General Plan implementation would result in sufficient water supplies available to serve the County and reasonably foreseeable future development during normal, dry and multiple dry years.	LS	<i>None Required</i>	LS
Impact 3.15-2: General Plan implementation may require or result in the construction of new water treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects.	LS	<i>None Required</i>	LS
Impact 3.15-3: General Plan implementation has the potential to result in a determination by the wastewater treatment provider which serves or may serve the Project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments.	LS	<i>None Required</i>	LS

ENVIRONMENTAL IMPACT	LEVEL OF SIGNIFICANCE WITHOUT MITIGATION	MITIGATION MEASURE	RESULTING LEVEL OF SIGNIFICANCE
Impact 3.15-4: General Plan implementation may require or result in the relocation or construction of new or expanded wastewater facilities, the construction or relocation of which could cause significant environmental effects.	LS	None Required	LS
Impact 3.15-5: General Plan implementation may require or result in the relocation or construction of new or expanded storm water drainage facilities, the construction or relocation of which could cause significant environmental effects.	LS	None Required	LS
Impact 3.15-6: General Plan implementation would comply with federal, state, and local management and reduction statutes and regulations related to solid waste, and would not generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals.	LS	None Required	LS
WILDFIRES			
Impact 3.16-1: General Plan implementation could substantially impair an adopted emergency response plan or emergency evacuation plan.	LS	None Required	LS
Impact 3.16-2: General Plan implementation would not exacerbate wildfire risks, or thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire.	LS	None Required	LS
Impact 3.16-3: Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment.	LS	None Required	LS
Impact 3.16-4: Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of	LS	None Required	LS

ENVIRONMENTAL IMPACT	LEVEL OF SIGNIFICANCE WITHOUT MITIGATION	MITIGATION MEASURE	RESULTING LEVEL OF SIGNIFICANCE
runoff, post-fire slope instability, or drainage changes.			
OTHER CEQA-REQUIRED TOPICS			
Impact 4.1: Cumulative degradation of the existing visual character of the region	LCC	<i>None Required</i>	LCC
Impact 4.2: Cumulative impact to agricultural lands and resources.	PS	<i>Minimized to the greatest extent feasible through General Plan Policies and Actions. No feasible mitigation is available.</i>	CC and SU
Impact 4.3: Cumulative impact on the region's air quality	PS	<i>Minimized to the greatest extent feasible through General Plan Policies and Actions. No feasible mitigation is available.</i>	CC and SU
Impact 4.4: Cumulative loss of biological resources, including habitats and special status species	LCC	<i>None Required</i>	LCC
Impact 4.5: Cumulative impacts on known and undiscovered cultural resources	LCC	<i>None Required</i>	LCC
Impact 4.6: Cumulative impacts related to geology and soils	LCC	<i>None Required</i>	LCC
Impact 4.7: Cumulative impacts related to greenhouse gases, climate change, and energy	PS	<i>Minimized to the greatest extent feasible through General Plan Policies and Actions. No feasible mitigation is available.</i>	CC and SU
Impact 4.8: Cumulative impacts related to hazardous materials and human health risks	LCC	<i>None Required</i>	LCC
Impact 4.9: Cumulative impacts related to hydrology and water quality	LCC	<i>None Required</i>	LCC
Impact 4.10: Cumulative impacts related to local land use, population, and housing	LCC	<i>None Required</i>	LCC
Impact 4.11: Cumulative impacts related to mineral resources	LCC	<i>None Required</i>	LCC
Impact 4.12: Cumulative impacts related to noise	LCC	<i>None Required</i>	LCC
Impact 4.13: Cumulative impacts to public services and recreation	LCC	<i>None Required</i>	LCC
Impact 4.14: Cumulative impacts on the transportation network	PS	<i>Minimized to the greatest extent feasible through General Plan Policies and Actions. No feasible mitigation is available.</i>	CC and SU
Impact 4.15: Cumulative impacts related to utilities	LCC	<i>None Required</i>	LCC
Impact 4.16: Cumulative impact related to wildfire	LCC	<i>None Required</i>	LCC
Impact 4.17: Irreversible and adverse effects	PS	<i>Minimized to the greatest extent feasible through General Plan Policies and Actions.</i>	SU

<i>ENVIRONMENTAL IMPACT</i>	<i>LEVEL OF SIGNIFICANCE WITHOUT MITIGATION</i>	<i>MITIGATION MEASURE</i>	<i>RESULTING LEVEL OF SIGNIFICANCE</i>
		<i>No feasible mitigation is available.</i>	

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1.1 INTRODUCTION

In 2019, Glenn County embarked on multi-year process to update the County's General Plan. The General Plan is the overarching policy document that guides land use, housing, transportation, infrastructure, and other policy decisions. State law requires every city and county in California to prepare and maintain a general plan planning document. The General Plan is the County's "constitution" or "blueprint" for future development of the County and provides the policy guidance for achieving the community's vision.

The Glenn County General Plan identifies the community's vision for the future and provides a framework to guide decisions on growth, development, and conservation of open space and resources in a manner consistent with the quality of life desired by residents, businesses, and local elected officials.

The General Plan Update is a multi-year process that includes a comprehensive update of the General Plan, which sets a vision for the future of the County, goals and strategies to achieve the County's vision, and an Environmental Impact Report (EIR), which investigates the possible impacts of the General Plan Update policy changes to the surrounding physical environment.

GENERAL PLAN UPDATE

General Plan Policy Document

The Policy Document contains the goals, policies, and strategies related to various elements of the General Plan. The General Plan must address seven elements - or issue categories - to the extent that they are relevant locally. These state-mandated elements include: land use, circulation, housing, open space, conservation, noise, and safety. In addition to the state-mandated elements the State provides additional requirements for topical areas for the general plan to address, for example: climate resilience and adaptation, and environmental justice. The General Plan sets out the goals, policies, and action items in each of these areas and serves as a policy guide for how the County will make key planning decisions in the future. It also identifies how the County will interact with nearby cities, and other local, regional, State, and Federal agencies.

The Policy Document contains the goals and policies that will guide future decisions within the County. It also identifies action programs that will ensure the goals and policies in the General Plan are carried out. As part of the General Plan Update, the County and the consultant team also prepared several supporting documents that serve as the building blocks for the Policy Document. A description of these reports is as follows:

Existing Conditions Report

The Existing Conditions Report (pdf) takes a "snapshot" of Glenn County's current (2019) trends and conditions. It provides a detailed description of a wide range of topics within the county, such as demographic and economic conditions, land use, public facilities, safety constraints, and

environmental resources. The Existing Conditions Report provides decision-makers, the public, and local agencies with context for making policy decisions.

Opportunities and Constraints Report

Based on public input from community visioning workshops, information contained in the Existing Conditions Report, stakeholder interviews, and direction from County staff, this report identifies key issues and opportunities to be addressed in the General Plan and summarizes input provided by participants of the visioning workshops. This [Opportunities and Constraints Report](#) (pdf) provides the GPAC, the Planning Commission, and the Board of Supervisors with tools and information for the development of the General Plan Policy Document and associated Land Use and Circulation Maps.

Community Vision

The Glenn County General Plan's [Community Vision](#) (pdf) is an aspirational statement of what Glenn County wants to become through the implementation of its General Plan. The Vision Statement provides a sense of purpose and mission for the General Plan Update, and sets the tone for the Plan's guiding principles and core values to aid in the development of goals, policies and actions that will guide development in the coming years.

Outreach Summary Report

The [Outreach Summary Report](#) (pdf) provides an overview of the outreach activities that have been conducted to date (Visioning Workshops, Online Survey, etc.) and includes a detailed summary of all of the public input received.

Environmental Impact Report

An EIR responds to the requirements of the California Environmental Quality Act (CEQA) as set forth in Sections 15126, 15175, and 15176 of the CEQA Guidelines. The Planning Commission and Board of Supervisors will use the EIR during the General Plan Update process in order to understand the potential environmental implications associated with implementing the General Plan. This EIR was prepared concurrently with the General Plan policy document in order to facilitate the development of a General Plan that is largely self-mitigating. In other words, as environmental impacts associated with the new General Plan, including the Land Use Map, were identified; policies and actions were incorporated into the General Plan policy document in order to reduce or avoid potential environmental impacts.

1.2 PURPOSE OF THE EIR

The County of Glenn, as lead agency, determined that the Glenn County General Plan Update is a "Project" within the meaning of CEQA. CEQA requires the preparation of an EIR prior to approving any project that may have a significant impact on the environment. For the purposes of CEQA, the term "Project" refers to the whole of an action, which has the potential for resulting in a direct physical change or a reasonably foreseeable indirect physical change in the environment (CEQA Guidelines Section 15378[a]).

This Draft EIR has been prepared according to CEQA requirements to evaluate the potential environmental impacts associated with the implementation of the Glenn County General Plan. A copy of the Public Draft General Plan is located on the Project Website at <https://glenncounty.generalplan.org/>. The Draft EIR discusses alternatives to the General Plan, and any mitigation and minimization measures that will offset, minimize, or otherwise avoid potentially significant environmental impacts. This Draft EIR has been prepared in accordance with CEQA, California Resources Code Section 21000 et seq.; the Guidelines for the California Environmental Quality Act (California Code of Regulations, Title 14, Chapter 3); and the rules, regulations, and procedures for implementing CEQA as adopted by the Glenn County.

An EIR must disclose the expected direct and indirect environmental impacts associated with a Project, including impacts that cannot be avoided, growth-inducing effects, impacts found not to be significant, and significant cumulative impacts, as well as identify mitigation measures and alternatives to the proposed Project that could reduce or avoid its adverse environmental impacts. CEQA requires government agencies to consider and, where feasible, minimize significant environmental impacts of proposed development.

1.3 TYPE OF EIR

The State CEQA Guidelines identify several types of EIRs, each applicable to different project circumstances. This EIR has been prepared as a Program EIR pursuant to CEQA Guidelines Section 15168. Section 15168 states:

“A program EIR is an EIR which may be prepared on a series of actions that can be characterized as one large project and are related either:

- 1) Geographically;
- 2) As logical parts in the chain of contemplated actions;
- 3) In connection with issuance of rules, regulations, plans or other general criteria to govern the conduct of a continuing program; or
- 4) As individual activities carried out under the same authorizing statutory or regulatory authority and having generally similar environmental effects which can be mitigated in similar ways.”

The program-level analysis considers the broad environmental effects of the proposed Project. This EIR may be used to evaluate subsequent projects and activities under the proposed Project. This EIR is intended to provide the information and environmental analysis necessary to assist public agency decision-makers in considering approval of the proposed Project, but not necessarily to the level of detail to consider approval of subsequent development projects that may occur after adoption of the General Plan.

Additional environmental review under CEQA may be required for subsequent projects and would be generally based on the subsequent project’s consistency with the General Plan and the analysis in this EIR, as required under CEQA. It may be determined that some future projects or infrastructure improvements may be exempt from environmental review. When individual subsequent projects or

activities under the General Plan are proposed, the lead agency that would approve and/or implement the individual project will examine the projects or activities to determine whether their effects were adequately analyzed in this Program EIR (CEQA Guidelines Section 15168). If the projects or activities would have no effects beyond those disclosed in this EIR, no further CEQA compliance would be required.

1.4 INTENDED USES OF THE EIR

The County of Glenn, as the lead agency, has prepared this EIR to provide the public and responsible and trustee agencies with an objective analysis of the potential environmental impacts resulting from adoption of the General Plan and subsequent implementation of projects consistent with the General Plan. The environmental review process enables interested parties to evaluate the proposed project in terms of its environmental consequences, to examine and recommend methods to eliminate or reduce potential adverse impacts, and to consider a reasonable range of alternatives to the proposed Project. While CEQA requires that consideration be given to avoiding adverse environmental effects, the lead agency must balance adverse environmental effects against other public objectives, including the economic and social benefits of a project, in determining whether a project should be approved.

This EIR will be used as the primary environmental document to evaluate all subsequent planning and permitting actions associated with the General Plan. Subsequent actions that may be associated with the General Plan are identified in Chapter 2.0, Project Description. This EIR may also be used by other local regional agencies.

1.5 KNOWN RESPONSIBLE AND TRUSTEE AGENCIES

The term “Responsible Agency” includes all public agencies other than the Lead Agency that have discretionary approval power over the Project or an aspect of the Project (CEQA Guidelines Section 15381). For the purpose of CEQA, a “Trustee” agency has jurisdiction by law over natural resources that are held in trust for the people of the State of California (CEQA Guidelines Section 15386). While no Responsible Agencies or Trustee Agencies are responsible for approvals associated with adoption of the Glenn County General Plan, implementation of future projects within the Planning Area may require permits and approvals from such agencies, which may include the following:

- California Department of Fish and Wildlife (CDFW);
- California Department of Transportation (Caltrans);
- Regional Water Quality Control Board (RWQCB);
- U.S. Army Corps of Engineers (ACOE);
- U.S. Fish and Wildlife Service (USFWS);
- Department of Toxic Substances Control (DTSC)

1.6 ENVIRONMENTAL REVIEW PROCESS

The review and certification process for the EIR has involved, or will involve, the following general procedural steps:

NOTICE OF PREPARATION

Glenn County circulated a Notice of Preparation (NOP) of an EIR for the proposed Project on October 28, 2022 to trustee and responsible agencies, the State Clearinghouse, and the public. A scoping meeting was held on November 16, 2022. During the 30-day public review period for the NOP, which ended on November 28, 2022, three written comment letters were received on the NOP. The NOP and all comments received on the NOP are presented in Appendix A.

DRAFT EIR

This document constitutes the Draft EIR. The Draft EIR contains a description of the Project, description of the environmental setting, identification of the Project's direct and indirect impacts on the environment and mitigation measures for impacts found to be significant, as well as an analysis of Project alternatives, identification of significant irreversible environmental changes, growth-inducing impacts, and cumulative impacts. This Draft EIR identifies issues determined to have no impact or a less than significant impact and provides detailed analysis of potentially significant and significant impacts. Comments received in response to the NOP were considered in preparing the analysis in this EIR. Upon completion of the Draft EIR, the County will file the Notice of Completion (NOC) with the State Clearinghouse of the Governor's Office of Planning and Research to begin the public review period.

PUBLIC NOTICE/PUBLIC REVIEW

Concurrent with the NOC, the Glenn County will provide a public notice of availability for the Draft EIR, and invite comment from the general public, agencies, organizations, and other interested parties. Consistent with CEQA requirements, the review period for this Draft EIR is forty-five (45) days. Public comment on the Draft EIR will be accepted in written form to the address below or by email. All comments or questions regarding the Draft EIR should be directed to:

Mardy Thomas, Director
Glenn County Planning & Community Development Services
225 N. Tehama Street
Willows, CA 95988
Phone: 530.934.6540
Email: mthomas@countyofglenn.net

RESPONSE TO COMMENTS/FINAL EIR

Following the public review period, a Final EIR will be prepared. The Final EIR will respond to both oral and written comments received during the public review period and include any minor changes to the DEIR in the form of an errata.

CERTIFICATION OF THE EIR/PROJECT CONSIDERATION

The County Board of Supervisors will review and consider the Final EIR. If the County finds that the Final EIR is "adequate and complete" pursuant to CEQA Guidelines Section 15151, the Board of Supervisors may certify the Final EIR in accordance with CEQA. As set forth by CEQA Guidelines Section 15151, the standards of adequacy require an EIR to provide a sufficient degree of analysis to allow decisions to be made regarding the proposed Project that intelligently take account of environmental consequences.

Upon review and consideration of the Final EIR, the Board may take action to approve, revise, or deny the Project. If the EIR determines that the Project would result in significant adverse impacts to the environment that cannot be mitigated to less than significant levels, the Board would be required to adopt a statement of overriding considerations as well as written findings in accordance with State CEQA Guidelines Sections 15091 and 15093. If additional mitigation measures are required (beyond the General Plan policies and actions that reduce potentially significant impacts, as identified throughout this EIR), a Mitigation Monitoring and Reporting Program (MMRP) would also be adopted in accordance with Public Resources Code Section 21081.6(a) and CEQA Guidelines Section 15097 for mitigation measures that have been incorporated into or imposed upon a project to reduce or avoid significant effects on the environment. The MMRP would be designed to ensure that these measures are carried out during project implementation, in a manner that is consistent with the EIR.

1.7 ORGANIZATION AND SCOPE

Sections 15122 through 15132 of the State CEQA Guidelines identify the content requirements for Draft and Final EIRs. An EIR must include a description of the environmental setting, an environmental impact analysis, mitigation measures for any significant impacts, alternatives, significant irreversible environmental changes, growth-inducing impacts, and cumulative impacts. The EIR prepared reviews environmental and planning documentation developed for the Project, environmental and planning documentation prepared for recent projects located within the Planning Area, and responses to the Notice of Preparation (NOP).

This Draft EIR is organized in the following manner:

EXECUTIVE SUMMARY

The Executive Summary summarizes the characteristics of the proposed Project, known areas of controversy and issues to be resolved, and provides a concise summary matrix of the Project's environmental impacts and possible mitigation measures. This chapter identifies alternatives that reduce or avoid at least one significant environmental effect of the proposed Project.

CHAPTER 1.0 - INTRODUCTION

Chapter 1.0 briefly describes the proposed Project, the purpose of the environmental evaluation, identifies the lead, trustee, and responsible agencies, summarizes the process associated with preparation and certification of an EIR, identifies the scope and organization of the Draft EIR, and briefly summarizes comments received on the NOP.

CHAPTER 2.0 - PROJECT DESCRIPTION

Chapter 2.0 provides a detailed description of the proposed Project, including the location, intended objectives, background information, the physical and technical characteristics, including the decisions subject to CEQA, subsequent projects and activities, and a list of related agency action requirements.

CHAPTER 3.0 - ENVIRONMENTAL SETTING, IMPACTS, AND MITIGATION MEASURES

Chapter 3.0 contains an analysis of environmental topic areas as identified below. Each subchapter addressing a topical area is organized as follows:

Environmental Setting. A description of the existing environment as it pertains to the topical area.

Regulatory Setting. A description of the regulatory environment that may be applicable to the Project.

Impacts and Mitigation Measures. Identification of the thresholds of significance by which impacts are determined, a description of project-related impacts associated with the environmental topic, identification of appropriate mitigation measures, and a conclusion as to the significance of each impact. The following environmental topics are addressed in this section:

- Aesthetic Resources
- Agriculture and Forestry Resources
- Air Quality
- Biological Resources
- Cultural and Tribal Cultural Resources
- Geology, Soils, and Mineral Resources
- Greenhouse Gases, Climate Change, and Energy
- Hazards and Hazardous Materials
- Hydrology and Water Quality
- Land Use and Planning
- Noise
- Population and Housing
- Public Services and Recreation
- Transportation
- Utilities/Service Systems
- Wildfire
- Mandatory Findings of Significance/Cumulative Impacts

CHAPTER 4.0 - OTHER CEQA-REQUIRED TOPICS

Chapter 4.0 evaluates and describes the following CEQA required topics: impacts considered less-than-significant, significant and irreversible impacts, growth-inducing effects, cumulative impacts, and significant and unavoidable environmental effects.

CHAPTER 5.0 - ALTERNATIVES

Chapter 5.0 provides a comparative analysis between the merits of the proposed Project and the selected alternatives. State CEQA Guidelines Section 15126.6 requires that an EIR describe a range of reasonable alternatives to the Project, which could feasibly attain the basic objectives of the Project and avoid and/or lessen any significant environmental effects of the Project.

CHAPTER 6.0 – REPORT PREPARERS AND REFERENCES

Chapter 6.0 lists authors and agencies that assisted in the preparation of the Draft EIR, by name, title, and company or agency affiliation.

APPENDICES

This section includes all notices and other procedural documents pertinent to the Draft EIR, as well as technical material prepared to support the analysis.

1.8 COMMENTS RECEIVED ON THE NOTICE OF PREPARATION

The County received four comment letters on the NOP. Comments were received from: The California Department of Transportation; California Department of Fish and Wildlife, Native American Heritage Commission (NAHC), and the California Department of Toxic Substances. Copies of these letters are provided in Appendix A of this Draft EIR.

2.0-1 BACKGROUND AND OVERVIEW

STATE GENERAL PLAN LAW

California Government Code Section 65300 et seq. requires all counties and cities in the State to prepare and maintain a general plan for the long-term growth, development, and management of the land within the jurisdiction's planning boundaries. The general plan acts as a "constitution" for development, and is the County's lead legal document in relation to growth, development, and resource management issues. Development regulations (e.g., zoning and subdivision standards) are required by law to be consistent with the General Plan.

General plans must address a broad range of topics, including, at a minimum, the following mandatory elements: land use, circulation, housing, conservation, open space, noise, and safety. General Plans must also address the topics of environmental justice, climate change, and resiliency planning, either as separate elements or as part of other required elements. At the discretion of each jurisdiction, the general plan may combine these elements and may add optional elements relevant to the physical features of the jurisdiction.

General plans must also be comprehensive, internally consistent, and plan for the long term. The general plan should be clearly written, easy to administer, and available to all those concerned with the community's development.

State planning and zoning law also establishes that zoning ordinances are required to be consistent with the general plan and any applicable specific plans, area plans, master plans, and other related planning documents. When amendments to the general plan are made, corresponding changes in the zoning ordinance may be required within a reasonable time to ensure consistency between the revised land use designations in the general plan (if any) and the permitted uses or development standards of the zoning ordinance (Gov. Code Section 65860, subd. [c]).

GENERAL PLAN UPDATE PROCESS

In March of 2019, Glenn County began the multi-year process to update the County's General Plan, which was last comprehensively updated over 25 years ago. As part of the General Plan Update process, the County prepared an Existing Conditions Report to note current (2019) trends and conditions and identify development patterns, natural resources, socioeconomic conditions, and environmental constraints in the County, and also identify the regulatory environment for each topic. Additionally, the County held three visioning workshops in May/June 2019 to receive community feedback and ideas to help shape the County's land use patterns, economic development strategies, and key priorities for the next 20 years. Based on public input from community visioning workshops, information contained in the Existing Conditions Report, stakeholder interviews, and direction from County staff, the County has developed an Opportunity and Constraints Report. The Opportunities and Constraints Report provides a means of focusing the community's attention on key issues and opportunities that have major policy implications as Glenn

County considers how to accommodate growth over the next 20-30 years, while balancing the County's economic development and natural resource needs.

A summary of these reports and the community outreach and public participation process is provided below.

Existing Conditions Report

To prepare a meaningful General Plan, existing conditions must be understood and documented. The Existing Conditions Report takes a "snapshot" of Glenn County's current (2019) trends and conditions and identifies development patterns, natural resources, socioeconomic conditions, and environmental constraints in the County, and also identifies the regulatory environment for each topic. This report is a resource for the Board of Supervisors, Planning Commission, General Plan Advisory Committee (GPAC), County staff, and the De Novo Planning Group team for the General Plan Update and Environmental Impact Report (EIR). The Existing Conditions Report makes extensive use of maps and graphics to help make it accessible to the general public. The Existing Conditions Report provides background data and serves as a technical framework, while the General Plan will focus on goals, policies, and action programs.

Opportunities and Constraints Report

Based on public input from community visioning workshops, information contained in the Existing Conditions Report, stakeholder interviews, and direction from County staff, this report identifies key issues and opportunities to be addressed in the General Plan and summarizes input provided by participants of the visioning workshops. This Opportunities and Constraints Report provides the GPAC, the Planning Commission, and the Board of Supervisors with tools and information for the development of the General Plan Policy Document and associated Land Use and Circulation Maps.

Visioning Workshops

In May and June 2019, the General Plan Update team held three public visioning workshops to help kick-off the General Plan Update process. County residents and stakeholders attended workshops at the City of Willows City Chambers, Hamilton High School Library, and the County Office of Education. The workshops provided an opportunity for the public to offer their thoughts on what they value about their community and the County, and what important issues should be addressed in updating the General Plan.

Each workshop included a presentation by the consultant team that explained the role of the General Plan, an overview of the General Plan Update process, and an opportunity for the workshop participants to ask questions and seek clarification on the process and the role of the community. Workshop participants completed activities and exercises that provide information to the General Plan Update team. Attendees were asked what they think are Glenn County's biggest assets and challenges, along with their vision for the future of Glenn County, and participated in a mapping activity to highlight areas that need special focused attention as part of the General Plan Update.

The feedback provided by the community at the three visioning workshops and by the General Plan Advisory Committee (GPAC) provides the County with a broad overarching vision for the

development of the General Plan Update, and identifies key community values and priorities that should be carefully addressed in the General Plan.

Online Survey

County staff and the consultant team developed an online survey to gather additional information from the public related to the General Plan Update. The survey was administered online via the General Plan Update website and the SurveyMonkey web platform and responses were collected from April 11, 2019 through August 31, 2019. The survey was developed to pose similar questions to those posed at the visioning workshops, and to gather additional details regarding County service levels, residential homeownership, employment locations, and economic development priorities. The survey included 19 specific questions, and received 227 responses primarily from demographics consisting of young families, homeowners, and older generations. Detailed survey results and responses are contained in the Outreach Summary Report, which is available on the project website (www.glenncounty.generalplan.org).

County Staff Observations and Input

County planning staff has provided the General Plan Update consultant team with an overview and summary of opportunities and constraints in Glenn County since the beginning of the update program. This input is based on County staff experience and observations through day-to-day work implementing the existing General Plan, discussions with the Board of Supervisors and the Planning Commission, and through the identification of key issues not addressed by current policy.

General Plan Advisory Committee

The General Plan Advisory Committee (GPAC) consists of members from the Board of Supervisors, Planning Commission, and the community at-large. The GPAC will coordinate with County staff and the General Plan Update consultant team throughout the development of the Policy Document. At the first meeting of the GPAC, members were asked to identify key issues and challenges that the County faces over the next 20-30 years, and which should be addressed in the General Plan Update. A summary of the input received from the GPAC is provided in Chapter 2.0.

Land Use Map Change Request Forms

Between July 2019 and April 2020, property owners in Glenn County were given the opportunity to submit General Plan land use designation change requests for their parcels to the Planning Department. The County received six land use change requests during this time. These requested changes were all considered by the General Plan Advisory Committee, Staff and the General Plan update team during the development of the Draft General Plan Land Use Map.

2.0-2 PROJECT LOCATION

REGIONAL SETTING

As shown on Figure 2.0-1 (Regional Location) Glenn County is located in the northern Sacramento Valley and the eastern foothills and mountains of the Coast Range, approximately 80 miles north of the City of Sacramento. The county extends from the Sacramento River west to the Coast Range. Located in Glenn County are the cities of Willows and Orland and the unincorporated communities of Hamilton City, Ord Bend, Artois, Elk Creek, Butte City, West Orland, and Glenn, and numerous other small areas of developments. The county has remained predominantly an agricultural region due to its alluvial soil, mild climate, and access to water resources. Glenn County was incorporated on March 5, 1891. The County seat, Willows, was created March 11, 1891. Glenn County's current General Plan was last comprehensively updated in 1993.

STUDY AREA

The Planning Area (or Study Area) for this General Plan EIR is all unincorporated areas of Glenn County. Areas within the Cities of Orland and Willows are not included in this analysis, and are not subject to the policies within the General Plan. The Spheres of Influence for Orland and Willows are within the jurisdictional boundaries of Glenn County, and these areas are included in the Project's Study Area.

2.0-3 DESCRIPTION OF PROPOSED GENERAL PLAN PROJECT

The Glenn County General Plan is a blueprint for growth in the County through 2040. The General Plan provides a framework for future growth in the unincorporated areas of the County in the form of goals and policies that are designed to facilitate planned growth in an orderly manner. Upon adoption, the General Plan will replace the County's existing General Plan.

The General Plan describes anticipated future growth over the long-term and is the subject of this Draft EIR, which provides technical background information for the General Plan. The General Plan is meant to express the community's goals with respect to the human-made and natural environments and to set forth the policies and implementation measures needed to achieve those goals for the welfare of those who live, work, and do business in Glenn County.

GENERAL PLAN ELEMENTS

The proposed General Plan update includes ten elements¹, each of which provides a set of goals, objectives, policies, and actions as described below:

- The **Land Use Element** designates the general distribution and intensity of residential, commercial, industrial, agricultural, open space, public/quasi-public, and other categories of public and private land uses. The element's primary focus is to guide growth within and around the existing communities in Glenn County and to conserve agricultural, open space,

¹ The Housing Element will be separately adopted by the County in 2023.

and natural resource lands. The Land Use Element includes the Land Use Map, which identifies land use designations for each parcel in the unincorporated County.

- The **Circulation Element** identifies the locations and extent of existing and proposed major thoroughfares, transportation routes, and alternative transportation facilities necessary to support a multi-modal transportation system. This element is intended to facilitate mobility of people and goods throughout unincorporated County by a variety of transportation modes, including bicycle, pedestrian, air and rail, while promoting reductions in vehicle miles traveled.
- The **Housing Element** of the General Plan identifies the County's housing conditions and needs, establishes the goals, policies, and actions that are the foundation of the housing strategy, and provides an array of programs to create housing opportunities that aim to meet the needs for all segments of the community.
- The **Agricultural Element** is an optional General Plan Element that establishes goals, policies, and actions designed to maintain and enhance the viability of agriculture throughout the county. Policies address issues such as accommodating agricultural uses, supporting Ag operations, the conversion of farmland to non-agricultural uses, farmworker needs, and potential land use conflicts.
- The **Economic Development Element** is an optional General Plan Element designed to support and enhance the County's economy, through programs through programs to create jobs and business opportunities, to help maintain the existing workforce, and to improve the business climate. The Economic Development Element seeks to sustain and diversify the county's economy, recognizing the importance of supporting local businesses while broadening and expanding the employment base and economic opportunities within the county.
- The **Conservation and Open Space Element** addresses the conservation and utilization of open space lands and natural resources, including natural habitats, riparian corridors, special-status species, cultural resources, energy, waste, and extractive resources.
- The **Safety Element** establishes policies and programs to protect the community from risk associated with geologic, flood, and fire hazards, hazardous materials, and community resilience and climate adaptation, as well as setting standards for emergency preparedness,
- The **Noise Element** establishes standards and policies to protect the community from the harmful and annoying effects of exposure to excessive noise levels. This element includes strategies to reduce land use conflicts that may result in exposure to unacceptable noise levels.
- The **Implementation Element** is an optional General Plan Element that identifies all of the action items and associated timing for implementation by various County departments or agencies during the life of the General Plan.

Goals, Policies and Actions

Each element of the General Plan contains a series of goals, policies and action items. The goals, policies and action items provide guidance to the County on how to direct change, manage growth, and manage resources over the 20-year life of the General Plan. The following provides a description of each and explains the relationship of each:

- A **goal** is a description of the general desired result that the County seeks to create through the implementation of the General Plan.
- A **policy** is a specific statement that guides decision-making as the County works to achieve its goals and objectives. Once adopted, policies represent statements of County regulations. The General Plan's policies set out the standards that will be used by County staff, the Planning Commission, and Board of Supervisors in its review of land development projects, resource protection activities, infrastructure improvements, and other County actions. Policies are on-going and require no specific action on behalf of the County.
- An **action** is an implementation measure, procedure, technique or specific program to be undertaken by the County to help achieve a specified goal or implement an adopted policy. The County must take additional steps to implement each action item in the General Plan. An action item is something that can and will be completed.

General Plan Land Use Map

The General Plan Land Use Map identifies land use designations for each parcel within the unincorporated area of Glenn County. The proposed General Plan Land Use Map is included as Figure 2.0-2.

General Plan Land Use Designations

The Land Use Element of the General Plan defines various land use designations by their allowable uses, and maximum development densities. The following describes the proposed land use designations for the General Plan. Table 2.0-1 shows the total number of parcels and total acreages for each land use designation shown on the proposed Land Use Map.

TABLE 2.0-1: GENERAL PLAN LAND USE DESIGNATIONS

LAND USE DESIGNATION	PARCELS	ACREAGE
Ag Transition	33	894.45
Agricultural/Residential	5	124.11
Business Park Light Industrial	26	541.35
Community Commercial	97	252.57
Foothill Agriculture/Forestry	1,248	290,610.86
General Agriculture	754	13,125.93
Highway and Service Commercial	181	1,675.76
Industrial	178	2,352.72
Intensive Agriculture	3,704	299,551.13
Mixed Use	18	124.76
Multiple Family Residential	127	157.79
Public Facilities	15	717.10
Recreation	528	213,134.14
Rural Residential	565	3,670.17
Rural Service Center	29	117.39
Single Family Residential	1,318	2,044.83
Suburban Residential	827	2,359.63
Urban Reserve	157	2,884.93
Total	9,810	834,339.62

SOURCES: GLENN COUNTY GIS DATASET, DE NOVO PLANNING GROUP 2022. Glenn County Assessor 2018.

Agricultural Designations

General Agriculture (GA). The General Agriculture (GA) designation identifies areas where it is desirable to retain agriculture as the primary land use. Lands designated General Agriculture are planned to be preserved for agricultural uses and the intent of the designation is to preserve such lands for existing and future agricultural use and protect these lands from the pressures of development.

Examples of uses which are considered appropriate under this designation include, but are not limited to: growing and harvesting field crops, grain and hay crops; growing and harvesting fruit and nut trees, vines and vegetables; pasture and grazing land; and animal raising operations. Agricultural-related industrial support operations shall be permitted on GA-designated lands. Such uses may include, but are not limited to, processing, assembly, distribution and warehousing of agricultural materials and commodities and alternative energy systems that provide energy for on-site uses. Small-scale retail uses, such as farm stands and other activities that promote the sale of agricultural products are allowed, as are other recreational and tourism uses, such as hunting clubs, duck blinds, and ancillary facilities, provided they do not change the primary use of the land from agricultural.

The minimum parcel size shall be twenty (20) acres and building intensity shall not exceed one residential unit per twenty (20) acres.

2.0 PROJECT DESCRIPTION

Intensive Agriculture (IA). The Intensive Agriculture (IA) designation is used to identify areas suitable for commercial agriculture which provide a major segment of the county's economic base; to protect the agricultural community from encroachment of unrelated agricultural uses which, by their nature, would be injurious to the physical and economic well-being of the agricultural community; to accommodate lands under Williamson Act contracts; to encourage the preservation of agricultural land, both in production and potentially productive, which contain State-designated Important Farmlands or Locally Significant Farmlands.

Examples of uses which are considered appropriate under this designation include, but are not limited to: growing and harvesting field crops, grain and hay crops; growing and harvesting fruit and nut trees, vines and vegetables; pasture and grazing land; and animal raising operations. Agricultural-related industrial support operations shall be permitted on Intensive Agricultural lands. Such uses may include, but are not limited to, processing, assembly, distribution and warehousing of agricultural materials and commodities and alternative energy systems that provide energy for on-site uses. Small-scale retail uses, such as farm stands and other activities that promote the sale of agricultural products are allowed, as are other recreational and tourism uses, such as hunting clubs, duck blinds, and ancillary facilities, provided they do not change the primary use of the land from agricultural.

The minimum parcel size shall be forty (40) acres and building intensity shall not exceed one residential unit per forty (40) acres.

Foothill Agriculture/Forestry (FA). The Foothill Agriculture/Forestry (FA) designation is used to preserve foothill areas of the county by providing for areas of intensive and extensive agricultural uses; to protect grazing land; to protect timber and forest lands economically suitable for logging; and to promote and encourage the use of forest lands for multiple purposes such as preserving wildlife, hunting, hiking, or other compatible uses.

Examples of uses which are considered appropriate under this designation include, but are not limited to: grazing; animal raising operations; growing and harvesting timber; uses directly related to growing, harvesting and processing forest products; growing and harvesting agricultural crops; uses directly related to growing, harvesting and processing agricultural products; and hunting lodges, clubs and camps. Large-scale commercial alternative energy production facilities may be considered on a case-by-case basis, provided such uses do not preclude the ongoing agricultural viability of the land. Water-intensive agricultural practices and operations are strongly discouraged in this designation.

The minimum parcel size shall be one hundred sixty (160) acres and building intensity shall not exceed one permanent residence for every 160 acres.

Agriculture Transition (AT). The Agriculture Transition (AT) designation identifies areas intended for long-term rural, agricultural use and can be used to provide a permanent boundary or land use buffer around communities, urban areas, and planned future urban or community development. This designation identifies areas where: 1) agricultural land has already been subdivided into small parcels (less than 40 acres) for ranchettes, part-time farms, and orchards and, 2) to identify areas that may be developed with small-scale agricultural uses, including low intensity agricultural commercial and agricultural industrial uses. The Agriculture Transition designation may serve as a transition zone between urban areas and the large-scale farms and agricultural operations beyond. These lands are intended to remain in agricultural use for the long-term and are not intended for conversion to urban or rural residential uses.

Examples of uses which are considered appropriate under this designation include, but are not limited to: growing and harvesting field crops, grain and hay crops; growing and harvesting fruit and nut trees, vines and vegetables; pasture and grazing land; and animal raising operations. Small-scale retail uses, such as farm stands and other activities that promote the sale of agricultural products are allowed, as are other recreational and tourism uses, such as hunting clubs, duck blinds, and ancillary facilities, provided they do not change the primary use of the land from agricultural.

The minimum parcel size shall be ten (10) acres and building intensity shall not exceed one residential unit per ten (10) acres, except that housing for farm labor and senior citizens in excess of the above standard may be permitted subject to permitting procedures established in the Glenn County Unified Development Code.

Urban Reserve (URA). The Urban Reserve Area (URA) designation serves as a placeholder for future urban development. Properties shall remain zoned for agriculture or open space use until such a time as conversion to urban uses is deemed appropriate. Agricultural uses are an acceptable and encouraged interim use. Lands designated Urban Reserve Area are not intended to be extensively subdivided or developed with large-scale or intensive uses until it is appropriate to develop the lands

with urban levels of residential, commercial, parks and recreation, and public/semi-public uses to meet the needs of the County.

Intensive uses, such as industrial, alternative energy, and agricultural commercial/industrial uses that may conflict with future urbanization of the area are not allowed. Lands designated Urban Reserve Area shall not be amended to urban land use designations (e.g., residential, commercial, parks and recreation, and public/semi-public uses) in a piecemeal fashion. It is anticipated that most of these parcels will be redesignated under future General Plans when additional lands are needed to accommodate growth.

Residential Land Use Designations

Rural Residential (RR). The Rural Residential (RR) designation is utilized to identify areas suitable for large lot, low density residential uses that provide for development which is compatible with a rural character and life-style.

Examples of uses which are considered appropriate under this designation include, but are not limited to: single-family residences; agricultural and domestic livestock farming on a limited scale; and home occupations.

The minimum parcel size shall be five (5) acres and building intensity shall not exceed one residential unit per five (5) acres.

Suburban Residential (SR). The Suburban Residential (SR) designation is utilized for areas suitable for smaller residential parcel sizes in areas that should remain rural in character. This designation provides for development that is compatible with subdivisions in a suburban setting.

Examples of uses which are considered appropriate under this designation include, but are not limited to, single-family residences; agricultural and domestic livestock farming on a limited scale; and home occupations.

The minimum parcel size shall be one (1) acre and building intensity shall not exceed one residential unit per acre. For parcels that cannot connect to a municipal wastewater system, the minimum parcel size shall be two (2) acres, with building intensity not exceeding one residential unit per two acres.

Single Family Residential (SFR). The Single Family Residential (SFR) designation identifies areas suitable for the development of residential dwelling units intended for occupancy by only one household, and physically independent from other dwelling units or structures.

Examples of uses which are considered appropriate under this designation include, but are not limited to: "traditional" single-family detached housing; mobile home subdivisions; mobile home parks; and planned residential developments.

The SFR designation allows a range of 1 to 8 dwelling units per acre, and the minimum parcel size shall be 5,000 square feet.

Multiple Family Residential (MFR). The Multiple Family Residential (MFR) designation identifies areas suitable for the development of structures containing more than one dwelling unit, including duplexes and triplexes.

Examples of uses which are considered appropriate under this designation include, but are not limited to: attached housing; apartments; group housing; condominiums; mobile home parks; and planned residential developments.

The MFR designation allows a range of 10 to 22 dwelling units per acre, and the minimum parcel size shall be 5,000 square feet.

Commercial Designations

Highway and Service Commercial (HSC). The Highway and Service Commercial (HSC) designation identifies areas to serve the more intensive commercial needs of County residents, business, visitors, and travelers. This designation provides areas suitable for heavier commercial uses involving outdoor storage, display and work activity, as well as commercial areas adjacent to major roadways where higher levels of vehicular traffic are expected.

Examples of uses which are considered appropriate under this designation include, but are not limited to: travel-related services such as gasoline service stations, truck stops, food and beverage sales, eating and drinking establishments, lodging, automotive-related or heavy equipment services and sales; lumber yards; machine shops; trucking terminals/printing/publishing facilities; and warehousing.

The HSC designation allows floor-area-ratios (FARs) up to 0.75, and the minimum parcel size shall be 8,000 square feet.

Community Commercial (CC). The Community Commercial (CC) designation provides for a full range of commercial retail and service establishments. CC areas should satisfy a variety of personal needs as well as those of other nearby businesses.

Examples of uses which are considered appropriate under this designation include, but are not limited to: gasoline service stations; hardware stores; eating and drinking establishments; food and beverage sales; public buildings; general merchandise stores; professional offices; and medical services. CC uses may also include agricultural supply and commodities sales; veterinary services; and other agricultural-related services.

The CC designation allows floor-area-ratios (FARs) up to 0.5, and the minimum parcel size shall be 8,000 square feet.

Mixed Use (MU). The Mixed Use (MU) designation establishes areas appropriate for higher density and intensity development, redevelopment, or a broad spectrum of compatible land uses ranging from a single use to a cluster of uses. The MU designation encourages placing housing, jobs, services, and recreational land uses close together within a project site, or on different stories of the same building. This designation is placed primarily in the community centers, downtown districts, and in-fill areas to encourage economic investment and revitalization of these core areas through promoting community-serving retail, office, and residential opportunities in a dense, compact form with opportunities for people to access the project and other destinations through bicycle, pedestrian, and mass transit modes. The MU designation is applied to areas that are or will be serviced by public water and sewer districts.

2.0 PROJECT DESCRIPTION

Examples of uses which are considered appropriate under this designation include, but are not limited to: retail, office, residential, hotel, recreation, public facilities and/or other compatible use. Individual projects may include a combination of both residential and non-residential uses and exclusively residential uses are allowed. Residential uses shall occupy at least 50 percent of the total floor area of a mixed-use project.

The MU designation allows non-residential floor-area-ratios (FARs) up to 0.75 and residential densities ranging from 14 to 25 units per acre. The minimum parcel size shall be 8,000 square feet.

Rural Service Center (RSC). The Rural Service Center (RSC) designation identifies areas suitable to provide necessary housing and services in small rural communities. These areas are very small, predominantly residential settlements. Growth potential in these areas is severely limited by the lack of urban services. The Rural Service Center designation anticipates multiple land uses on any given lot, consistent with and supportive of a higher intensity of development in the community area core that will contribute to a prosperous economy and higher quality of life in each of these rural centers. Subdivision or lot splitting into parcels smaller than two acres is prohibited, unless community water and septic/sewer systems can be provided to serve lots smaller than two acres.

Industrial Designations

Business Park Light Industrial (BPLI). The purpose of the Business Park Light Industrial (BPLI) designation is to strengthen and enhance industrial and business development potential by designating areas where adequate infrastructure can be provided to support new industries or the relocation of industries, and a "workplace use" environment can be provided.

Examples of uses which are considered appropriate under this designation include, but are not limited to: offices; research and development parks; light industrial parks; warehousing; health clubs and gymnasiums; small proprietary industries; "incubator" businesses and industries; and incidental retail uses.

The BPLI designation allows floor-area-ratios (FARs) up to 0.5, and the minimum parcel size shall be one (1) acre.

Industrial (I). The purpose of the Industrial (I) designation is to provide for a range of manufacturing operations; the processing of natural resources; and the processing of agricultural products. The intent is to encourage appropriate industrial/manufacturing development that will be compatible with adjacent land uses and will not create adverse environmental impacts.

Examples of uses which are considered appropriate under this designation include, but are not limited to: light manufacturing uses; fabrication shops; large warehouses; equipment storage yards; distribution sales; batch plants; lumber mills; auto wrecking, salvage and junk yards; fuel tank farms; and energy facilities.

The Industrial designation allows floor-area-ratios (FARs) up to 1.0 and the minimum parcel size shall be 10,000 square feet. Outdoor storage shall be completely screened and shall not exceed one hundred percent (100%) of the gross floor area of all structures.

Recreation Open Space and Public Designations

Open Space/Public Lands (OSP). The Open Space/Public Lands (OSP) designation is used to identify areas having open space value as primitive or natural areas; to identify areas in public ownership which are reserved for wilderness use or as a wildlife or nature preserve; to retain certain lands in a natural or undisturbed state; to identify lake recreation areas and to provide for use of these areas for active or passive public recreation purposes.

Examples of uses which are considered appropriate under this designation include, but are not limited to: wildlife or nature preserves; passive, non-intensive recreational uses (such as picnic areas or walking/hiking trails); public campgrounds; public parks; and important natural resource areas.

There is no minimum parcel size for this designation.

Public Facilities (PF) The purpose of the Public Facilities (PF) designation is to provide areas for the development of public facilities to meet public needs.

Examples of uses which are considered appropriate under this designation include, but are not limited to: institutional, academic, governmental and community services, either publicly-owned or operated by non-profit organizations, such as fire stations, parks and community centers.

The PF designation allows floor-area-ratios (FARs) up to 0.75 and the minimum parcel size shall be 6,000 square feet.

2.0-4 GENERAL PLAN BUILDOUT ANALYSIS

The analysis in this EIR addresses “buildout” associated with the proposed General Plan, as described in greater detail below.

THEORETICAL BUILDOUT

The maximum theoretical buildout of any General Plan would be the development of every single parcel in the unincorporated area of the County at the higher end of densities and intensities allowed under the proposed General Plan. The theoretical maximum buildout of the proposed General Plan has the potential to yield substantial new residential dwelling units and new non-residential building square footage. However, theoretical maximum buildout is considered highly unlikely given the existing development pattern in the County, historical growth rates, and anticipated growth and development demand over the life of the General Plan.

PROJECTED 2040 GENERAL PLAN BUILDOUT

This EIR evaluates the projected development that could occur under the General Plan through the year 2040, or the “projected 2040 buildout,” consistent with CEQA requirements that an EIR evaluate the “reasonably foreseeable” direct and indirect impacts of a proposed Project. The projected 2040 General Plan buildout growth assumptions are based on population and growth rates reported by the California Department of Finance, Caltrans, past development rates in the County, past land use development intensities in the County, policy direction provided in the proposed General Plan, and the location and intensity of land use designations shown on the proposed General Plan Land Use Map. Ultimately, the rate and location of growth in the County over the next 20 years will be largely dictated by market conditions, however, reasonable assumptions regarding the likely location, rate and intensity of growth over the next 20 years have been developed.

The following section presents a forecast of long-term growth in the number of residents, households, housing units, and jobs in Glenn County through 2040. The households and housing unit forecasts are based on population projections published the DOF. The employment projections are those published by Caltrans.

Population, Household, and Housing Unit Forecast

Projections of population and housing unit growth through 2040 are based on the long-term population growth projections, published by the California Department of Finance (DOF). As shown in Table 2.0-2, Glenn County may be expected to grow around 13 percent (0.6 percent per year) through 2040. This is generally representative with regional population growth, but is notably slower than the statewide growth rate. During this period, Glenn County, including the two incorporated cities, can expect to add an estimated 3,838 new residents countywide. Assuming that the average ratios of population to households and housing units remain relatively constant over the projection period, the projected population growth may reasonably translate into approximately 1,487 new housing units. Assuming that roughly 52 percent of Glenn County residents and households continue to reside in the unincorporated county, the unincorporated county could add approximately 2,172 new residents, with demand for approximately 773 new housing units.

TABLE 2.0-2: PROJECTED POPULATION AND HOUSEHOLD GROWTH, 2018-2040

Population	2018 (Est.)	2040 (Proj.)	Percent		
			Abs. Change 2018-2040	Change 2018-2040	Avg. Annual Change
Glenn County	28,882	32,720	3,838	13.3%	0.6%
Four-County Region	343,033	394,515	51,482	15.0%	0.6%
State of California	39,839,477	46,671,816	6,832,339	17.1%	0.7%

Households (a)	2018 (Est.)	2040 (Proj.)	Abs. Change	
			2018-2040	
Glenn County	10,117	11,462	1,344	
Four-County Region	132,852	152,791	19,938	
State of California	13,165,155	15,422,936	2,257,781	

Housing Units (a)	2018 (Est.)	2040 (Proj.)	Abs. Change	
			2018-2040	
Glenn County	11,189	12,676	1,487	
Four-County Region	146,461	168,441	21,981	
State of California	14,192,864	16,626,894	2,434,029	

Notes:

(a) Household and housing unit figures were calculated by taking the DOF population projections and dividing them by the respective geography's ratio of total population to total households or total housing units from the DOF's January 2017 population and housing estimates.

Sources: California Department of Finance (DOF), P-1 State Population Projections, 2010-2060; BAE, 2019.

Employment and Non-Residential Land Use Demand

As reported in Table 2.0-3, Caltrans projects that Glenn County (countywide) is likely to add around 990 jobs at an average annual growth rate of 0.5 percent per year through 2040. This is compared to 0.4 percent per year projected for the four-county region and 0.6 percent per year for California. Job growth in Glenn County is expected to be primarily concentrated in the Retail Trade, Leisure and Hospitality, and Education and Healthcare sectors.

Table 2.0-3 estimates the amount of new non-residential floor area Glenn County could absorb through 2040 based on the employment projections by industry published by the Employment Development Department (EDD). As shown in the table, Glenn County could potentially experience demand sufficient to absorb nearly around 272,000 square feet of new retail space, 33,500 square feet of new office space, 59,000 square feet of new education and health care space, and 198,000 square feet of new industrial space through 2040.

2.0 PROJECT DESCRIPTION

TABLE 2.0-3: NEW NON-RESIDENTIAL REAL ESTATE DEMAND, GLENN COUNTY (2040)

<u>Land Use Category (a)</u>	<u>New Jobs</u>	<u>Sq.Ft. Per Employee</u>	<u>New Real Estate Demand (Sq.Ft) (b)</u>
Retail	495	500	272,160
Office	111	275	33,513
Education and Health Care	154	350	59,282
Industrial	180	1,000	198,084
All Other (c)	50	n.a.	n.a.

Notes:

(a) The following employment industry categories were included in each land use category:

<u>Retail</u>	<u>Education and Health Care</u>	<u>Other</u>
Retail Trade	Education and Health Care	Farm
Leisure and Hospitality		Natural Resc. and Mining
		Other
<u>Office</u>	<u>Industrial</u>	
Information	Construction	
Financial Activities	Manufacturing	
Professional Services	Transp., Warehouse, Utilities	
Federal Government	Wholesale Trade	
State and Local Government		

(b) Assumes an average vacancy rate for new construction of ten percent.

(c) Employment industries included in the All Other category are not assumed to generate new real estate demand.

Sources: CalTrans, Long-Term Socio-Economic Forecasts by County, 2018; BAE, 2019.

Because the non-residential development and employment projections developed by CalTrans as part of their Long-Term Socio-Economic Forecasts are not site specific, and only identify potential overall growth, it is not possible to identify exactly how much of this new non-residential floor area can be expected to develop in the unincorporated portions of the county, and it is likely that much of this new demand would be concentrated in or around the incorporated cities. Therefore, similar to residential development, this analysis assumes that approximately half of non-residential floor area of new retail space, office space, education and health care space, and industrial space developed would be included within portions of the unincorporated county. This translates to 136,000 square feet of new retail space, 16,750 square feet of new office space, 29,500 square feet of new education and health care space, and 99,000 square feet of new industrial space through 2040. This would translate to roughly 495 new jobs. In addition to new retail space, office space education and health care space and general industrial space, it is assumed that an additional 250,000 square feet of Agricultural related processing and industrial space would also be developed throughout the unincorporated county by 2040, and would account for approximately 250 additional jobs.

General Plan Buildout

As shown in Table 2.0-4, projected buildout of the 2040 General Plan is estimated to result in 773 new housing units in Glenn County by 2040, and 531,250 additional square feet of job-generating, non-residential development. This growth would result in a population increase of approximately 2,172 persons and an increase in employment by 745 jobs. Development totals, which include projected development through 2040 and existing development, are shown in Table 2.0-4 below.

TABLE 2.0-4: GROWTH PROJECTIONS

	Population	Dwelling Units	Non-Residential Square Feet	Jobs	Jobs per Housing Unit
Existing Conditions					
	14,917	5,810	2,951,366	4,204	0.724
New Growth Potential					
Proposed General Plan	2,172	773	531,250	745	0.964
Total Growth: Existing Plus New Growth Potential					
Proposed General Plan	17,089	6,583	3,482,616	4,949	0.752

SOURCES: GLENN COUNTY GIS DATASET, DE NOVO PLANNING GROUP 2022. Glenn County Assessor 2018; California Department of Finance 2020; U.S. Census OntheMap 2019 employment estimates.

2.0-5 PROJECT OBJECTIVES

The General Plan is intended to reflect the desires and vision of County’s residents, businesses, the Advisory Committee, and decision-makers for the future development and operation of Glenn County. The core guiding principles identified for the General Plan Update are:

- Foster a strong sense of community that celebrates the County’s unique identity, agricultural heritage, and rural way of life.
- Provide a high standard of living for citizens through local programs, high quality services, public safety, local amenities, and educational opportunities that are accessible to all residents.
- Improve the County’s ability to be fiscally sustainable and proactively supportive of local businesses through the expansion of commercial activities, retention of existing successful commercial businesses, and redevelopment of underperforming commercial centers.
- Support and encourage the expansion of a variety of businesses that provide high quality employment and opportunities for economic advancement and resiliency, while enhancing the County’s reputation as a prime location for business growth.
- Be an active steward of the County’s vast natural resources in order to ensure that present and future generations have access to these resources for economic and recreational benefit.
- Address new requirements of State law.

2.0-6 USES OF THE EIR AND REQUIRED AGENCY APPROVALS

This EIR may be used for the following direct and indirect approvals and permits associated with adoption and implementation of the proposed project.

COUNTY OF GLENN

The County of Glenn is the lead agency for the proposed Project. The proposed General Plan will be presented to the Planning Commission for review and recommendation and to the Board of Supervisors for comment, review, and consideration for adoption. The Board of Supervisors has the sole discretionary authority to approve and adopt the proposed General Plan. In order to approve the proposed project, the Board of Supervisors would consider the following actions:

- Certification of the General Plan EIR;
- Adoption of required CEQA findings for the above action;
- Adoption of a Mitigation Monitoring and Reporting Program; and
- Approval of the General Plan Update.

SUBSEQUENT USE OF THE EIR

This EIR provides a review of environmental effects associated with implementation of the proposed General Plan. When considering approval of subsequent activities under the proposed General Plan, Glenn County would utilize this EIR as the basis in determining potential environmental effects and the appropriate level of environmental review, if any, of a subsequent activity. Projects or activities successive to this EIR may include, but are not limited to, the following:

- Approval and funding of major projects and capital improvements;
- Future Specific Plan, Planned Unit Development, or Master Plan approvals;
- Revision to the County Code, including the Zoning Ordinance;
- Water, sewer, and other infrastructure master plans;
- Recreation, Open Space and conservation plans;
- Development Plan approvals, such as tentative subdivision maps, variances, use permits, and other land use related permits;
- Development Agreements;
- Property rezoning consistent with the General Plan;
- Permit issuances and other approvals necessary for public and private development projects; and

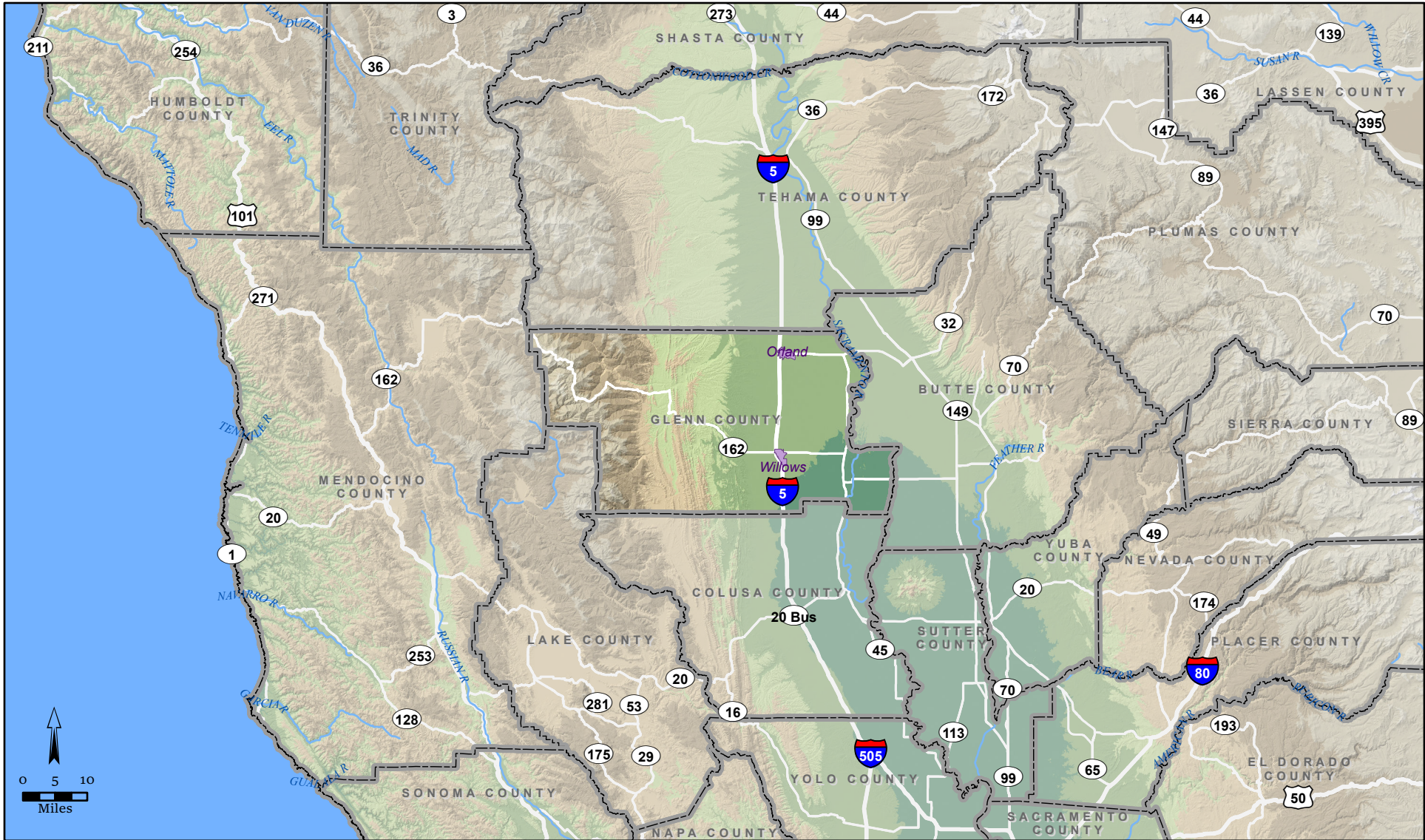
- Issuance of permits and other approvals necessary for implementation of the General Plan.

OTHER GOVERNMENTAL AGENCY APPROVALS



County approval of the proposed project would not require any actions or approvals by other public agencies. Subsequent projects and other actions to support implementation of the proposed project would require actions, including permits and approvals, by other public agencies that may include, but are not necessarily limited to:

- California Department of Fish and Wildlife (CDFW) approval of potential future streambed alteration agreements, pursuant to Fish and Game Code. Approval of any future potential take of state-listed wildlife and plant species covered under the California Endangered Species Act.
- California Department of Transportation (Caltrans) approval of projects and encroachment permits for projects affecting state highway facilities.
- Central Valley Water Quality Control Board (RWQCB) approval for National Pollution Discharge Elimination System compliance, including permits and Storm Water Pollution Prevention Plan approval and monitoring.
- Glenn Local Agency Formation Commission (LAFCo) approvals for annexation of any lands into the boundaries of a public services provider (e.g., water, wastewater, recreation, or other services district) or the cities of Orland and Willows.
- U.S. Army Corps of Engineers (ACOE) approval of any future wetland fill activities, pursuant to the Clean Water Act.
- U.S. Fish and Wildlife Service (USFWS) approvals involving any future potential take of federally listed wildlife and plant species and their habitats, pursuant to the Federal Endangered Species Act.

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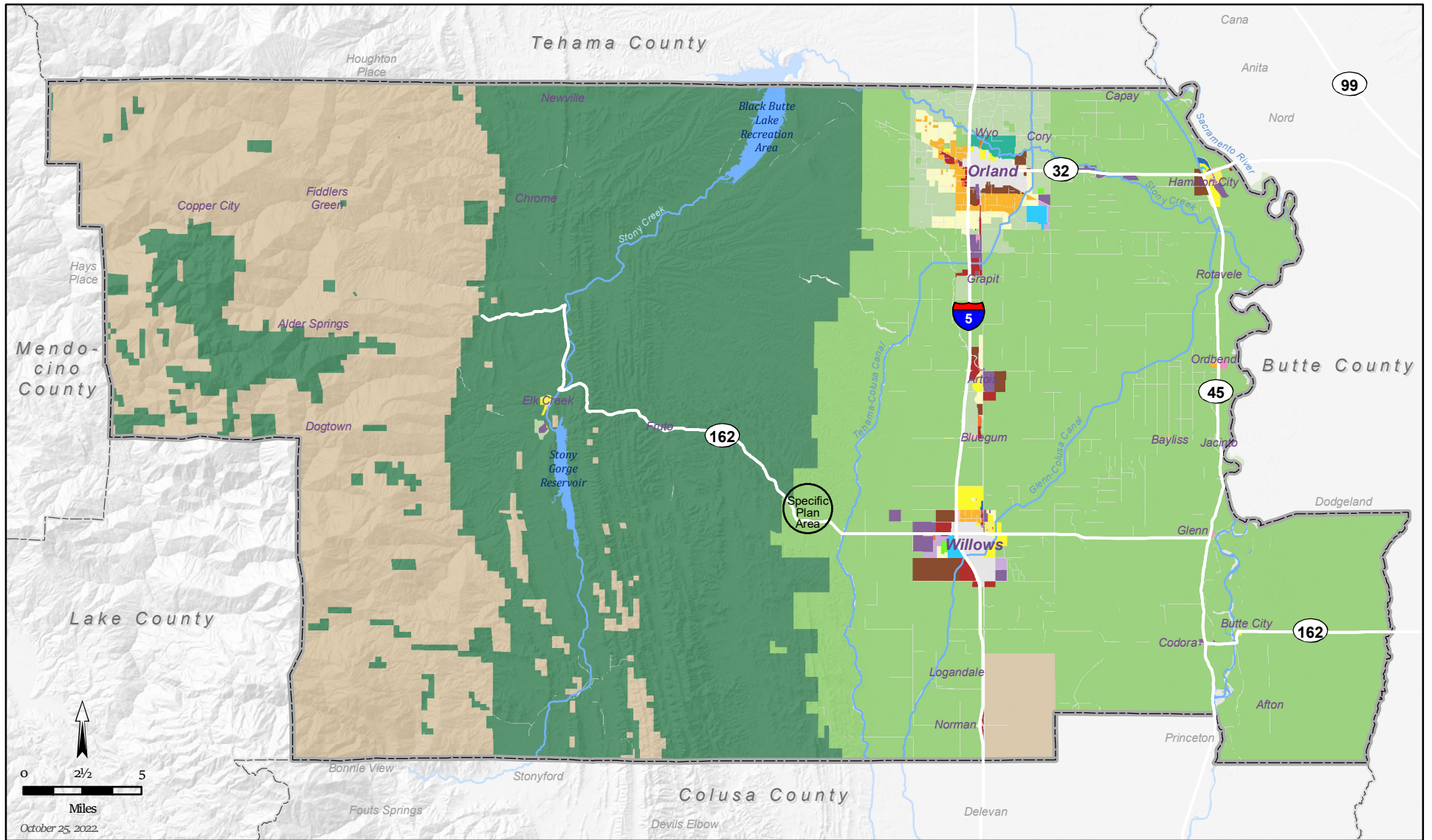
Source: Glenn County GIS. Map date: October 10, 2022.

- Legend**
-  County Boundary
 -  Incorporated Area in Glenn County

COUNTY OF GLENN, CALIFORNIA

FIGURE 2.0-1
REGIONAL LOCATION

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General Plan Designations

- | | | |
|--|--|--|
|  Foothill Agriculture/Forestry |  Single Family Residential |  Rural Service Center |
|  General Agriculture |  Suburban Residential |  Business Park Light Industrial |
|  Intensive Agriculture |  Multiple Family Residential |  Industrial |
|  Agricultural/Residential |  Urban Reserve |  Mixed Use |
|  Ag Transition |  Community Commercial |  Public Facilities |
|  Rural Residential |  Highway and Service Commercial |  Recreation |

COUNTY OF GLENN, CALIFORNIA

FIGURE 2.0-2. PROPOSED LAND USE MAP - COUNTYWIDE

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Glenn County possesses numerous scenic resources, many of which are found in the natural areas within the unincorporated county. These resources not only enhance the quality of life for Glenn County residents, but are a significant attraction that brings tourists to the region. Landscapes can be defined as a combination of four visual elements: landforms, water, vegetation, and man-made structures. Scenic resource quality is an assessment of the uniqueness or desirability of a visual element. This section reviews and summarizes Glenn County's key scenic resources.

This section was prepared based on existing reports and literature for Glenn County. Additional sources of information included the California Department of Transportation's (Caltrans) Designated Scenic Route map for Glenn County.

This section provides a background discussion of the scenic highways and corridors, and natural scenic resources and prominent visual features found in the Glenn County Planning Area. This section is organized with an existing setting, regulatory setting, and impact analysis.

There were no comments received during the NOP comment period related to this environmental topic.

CONCEPTS AND TERMINOLOGY

The aesthetic value of an area is a measure of its visual character and quality, combined with the viewer response to the area. Scenic quality can best be described as the overall impression that an individual viewer retains after driving through, walking through, or flying over an area. Viewer response is a combination of viewer exposure and viewer sensitivity. Viewer exposure is a function of the number of viewers, number of views seen, distance of the viewers, and viewing duration. Viewer sensitivity relates to the extent of the public's concern for a particular viewshed. These terms and criteria are described in detail below.

Visual Character. Natural and artificial landscape features contribute to the visual character of an area or view. Visual character is influenced by geologic, hydrologic, botanical, wildlife, recreational, and urban features. Urban features include those associated with landscape settlements and development, including roads, utilities, structures, earthworks, and the results of other human activities. The perception of visual character can vary significantly seasonally, even hourly, as weather, light, shadow, and elements that compose the viewshed change. The basic components used to describe visual character for most visual assessments are the elements of form, line, color, and texture of the landscape features. The appearance of the landscape is described in terms of the dominance of each of these components.

Visual Quality. Visual quality is evaluated using the well-established approach to visual analysis adopted by the Federal Highway Administration, employing the concepts of vividness, intactness, and unity, which are described below.

- Vividness is the visual power or memorability of landscape components as they combine in striking and distinctive visual patterns.

3.1 AESTHETICS AND VISUAL RESOURCES

- Intactness is the visual integrity of the natural and human-built landscape and its freedom from encroaching elements; this factor can be present in well-kept urban and rural landscapes, and in natural settings.
- Unity is the visual coherence and compositional harmony of the landscape considered as a whole; it frequently attests to the careful design of individual components in the landscape.

Visual quality is evaluated based on the relative degree of vividness, intactness, and unity, as modified by visual sensitivity. High-quality views are highly vivid, relatively intact, and exhibit a high degree of visual unity. Low-quality views lack vividness, are not visually intact, and possess a low degree of visual unity.

Viewer Exposure and Sensitivity. The measure of the quality of a view must be tempered by the overall sensitivity of the viewer. Viewer sensitivity or concern is based on the visibility of resources in the landscape, proximity of viewers to the visual resource, elevation of viewers relative to the visual resource, frequency and duration of views, number of viewers, and type and expectations of individuals and viewer groups.

The importance of a view is related, in part, to the position of the viewer to the resource; therefore, visibility and visual dominance of landscape elements depend on their placement within the viewshed. A viewshed is defined as all of the surface area visible from a particular location (e.g., an overlook) or sequence of locations (e.g., a roadway or trail). To identify the importance of views of a resource, a viewshed must be broken into distance zones of foreground, middle ground, and background. Generally, the closer a resource is to the viewer, the more dominant it is and the greater its importance to the viewer. Although distance zones in a viewshed may vary between different geographic region or types of terrain, the standard foreground zone is 0.25–0.5 mile from the viewer, the middle ground zone is from the foreground zone to 3–5 miles from the viewer, and the background zone is from the middle ground to infinity.

Visual sensitivity depends on the number and type of viewers and the frequency and duration of views. Visual sensitivity is also modified by viewer activity, awareness, and visual expectations in relation to the number of viewers and viewing duration. For example, visual sensitivity is generally higher for views seen by people who are driving for pleasure, people engaging in recreational activities such as hiking, biking, or camping, and homeowners. Sensitivity tends to be lower for views seen by people driving to and from work or as part of their work. Commuters and non-recreational travelers have generally fleeting views and tend to focus on commute traffic, not on surrounding scenery; therefore, they are generally considered to have low visual sensitivity. Residential viewers typically have extended viewing periods and are concerned about changes in the views from their homes; therefore, they are generally considered to have high visual sensitivity. Viewers using recreation trails and areas, scenic highways, and scenic overlooks are usually assessed as having high visual sensitivity.

Judgments of visual quality and viewer response must be made based on a regional frame of reference. The same landform or visual resource appearing in different geographic areas could have

a different degree of visual quality and sensitivity in each setting. For example, a small hill may be a significant visual element on a flat landscape but have very little significance in mountainous terrain.

Scenic Highway Corridor. The area outside of a highway right-of-way that is generally visible to persons traveling on the highway.

Scenic Highway/Scenic Route. A highway, road, drive, or street that, in addition to its transportation function, provides opportunities for the enjoyment of natural and human-made scenic resources and access or direct views to areas or scenes of exceptional beauty (including those of historic or cultural interest). The aesthetic values of scenic routes often are protected and enhanced by regulations governing the development of property or the placement of outdoor advertising. Until the mid-1980's, general plans in California were required to include a Scenic Highways Element.

View Corridor. A view corridor is a highway, road, trail, or other linear feature that offers travelers a vista of scenic areas within a city or county.

3.1.1 ENVIRONMENTAL SETTING

BUILT & NATURAL ENVIRONMENT

NATURAL SCENIC RESOURCES

Glenn County is located in the northern Sacramento Valley and the eastern foothills and mountains of the Coast Range, approximately 80 miles north of the city of Sacramento. The County encompasses approximately 1,317 square miles in north central California. The County extends from the Sacramento River west to the Coast Range.

The eastern third of the County is dominated by a "checkerboard" of large acreage farms, with land ownership and road alignments generally following square mile section lines. Views of agricultural lands in the eastern portion of the County are expansive, and framed primarily by the rolling foothills of the Coast Range to the west, the distant Sierra Nevada Mountains to the east and the jagged peaks of the Sutter Buttes to the southeast.

In the western portions of the County, large farms give way to much larger cattle and sheep ranches, cultivated fields give way to arid rangeland, and the flat terrain found throughout the eastern portions of the County transitions into rolling hills and spectacular upland valleys. Further west, the land becomes even more rugged and wild as elevations increase up to 7,000 feet in the Mendocino National Forest and the wilderness areas surrounding Snow Mountain.

Snow Mountain. Snow Mountain is a mountain with two 7,000+ summits named Snow Mountain East and Snow Mountain West, located on the border of Glenn County, Colusa County and Lake County in the southwestern portion of Glenn County. The mountain is part of the Pacific Coast Ranges mountain system and it is the first tall peak in the California Coast Ranges north of San Francisco. On clear days, the peak can be seen from Mount Diablo, and from several peaks in the Mayacamas Mountains, such as Mount Saint Helena, and Mount Konocti. Usually, the peaks are quite prominent from the California Central Valley, moreover the Sacramento Valley, such as from Interstate 5. On clear days the peaks can be seen from most vantage points in Glenn County. Like its

3.1 AESTHETICS AND VISUAL RESOURCES

name states, the summits and nearby high mountains get snowfall in winter, and the snowpack can last until June. The mountain gives its name to the 37,700-acre Mountain Wilderness in the Mendocino National Forest.

OTHER SCENIC RESOURCES AREAS

The Glenn County General Plan does not specifically designate any scenic viewsheds within the county. The existing Glenn County General Plan does however note the County's scenic environmental resources including the Sacramento River environment, the Sutter Buttes, and scenic vistas of the Coast Range and the Sierra.

Water Resources: Water resources are important visual resources that draw tourists to the area for recreational opportunities, provide critical habitat, and provide for scenic areas within and surrounding urban areas. The most visually significant water body in the region is the Sacramento River which forms the eastern boundary of the county.

Agricultural Resources: Much of the undeveloped land within the County and areas surrounding the developed portion of Glenn County is predominantly farmland. Agricultural lands have become important visual resources that contribute to the community identity of Glenn County, surrounding areas, and the Valley Region. Agricultural lands provide for visual relief from developed areas and act as community separators to nearby developed areas.

National Wildlife Refuges and Wildlife Management Areas: The Sacramento National Wildlife Refuge Complex consists of five national wildlife refuges (NWR) and three wildlife management areas (WMA) that comprise over 35,000 acres of wetlands and uplands in the Sacramento Valley, California. In addition, there are over 30,000 acres of conservation easements in the Complex. The Refuges and easements are part of the USFWS; they serve as resting and feeding areas for nearly half the migratory birds on the Pacific Flyway.

SCENIC HIGHWAYS AND CORRIDORS

According to the California Scenic Highway Mapping System, administered by Caltrans, there are no officially designated State Scenic Highways in the vicinity of Glenn County. The Glenn County General Plan does not specifically designate any scenic corridors within the county.

LIGHT AND GLARE

During the day, sunlight reflecting from structures is a primary source of glare, while nighttime light and glare can be divided into both stationary and mobile sources. Stationary sources of nighttime light include structure illumination, interior lighting, decorative landscape lighting, and street lights. The principal mobile source of nighttime light and glare is vehicle headlamp illumination. This ambient light environment can be accentuated during periods of low clouds or fog.

The variety of developed land uses in the Planning Area are the main source of daytime and nighttime light and glare. They are typified by single and multi-family residences, commercial structures, industrial areas, and street lights. These areas and their associated human activities (inclusive of vehicular traffic) characterize the existing light and glare environment present during daytime and nighttime hours in the developed portions of the Planning Area. Areas of open space

and along creek corridors are characterized primarily by non- developed uses and open space uses and lower intensity residential development, and generally have lower levels of ambient nighttime lighting and daytime glare.

Sources of glare in developed portions of the Planning Area come from light reflecting off surfaces, including glass, and certain siding and paving materials, as well as metal siding/roofing. The developed areas of Glenn County contain sidewalks and paved parking areas which reflect street and vehicle lights. The existing light environment found in the project area is generally considered typical of developed areas.

Sky glow is the effect created by light reflecting into the night sky. Sky glow is of particular concern in areas surrounding observatories, where darker night sky conditions are necessary, but is also of concern in more rural or natural areas where a darker night sky is either the norm or is important to wildlife. Due to the nature of the areas characterized by developed uses and their associated human activities, a number of existing light sources affect residential areas and illuminate the night sky. Isolating impacts of particular sources of light or glare is therefore not appropriate or feasible for the developed portions of the Planning Area. Areas characterized primarily by non- developed uses, open space uses, and lower intensity residential development generally have lower levels of sky glow.

3.1.2 REGULATORY SETTING

FEDERAL

There are no Federal regulations that apply to the proposed project related to visual resources in the study area.

STATE

California Department of Transportation – California Scenic Highway Program

California's Scenic Highway Program was created by the Legislature in 1963 to preserve and protect scenic highway corridors from change, which would diminish the aesthetic value of lands adjacent to highways. The State laws governing the Scenic Highway Program are found in the Streets and Highways Code Section 260 et seq.

The State Scenic Highway System includes a list of highways that are either eligible for designation as scenic highways or have been so designated. These highways are identified in Section 263 of the Streets and Highways Code. A list of California's scenic highways and map showing their locations may be obtained from the Caltrans Scenic Highway Coordinators.

If a route is not included on a list of highways eligible for scenic highway designation in the Streets and Highways Code Section 263 et seq., it must be added before it can be considered for official designation. A highway may be designated scenic depending on the extent of the natural landscape that can be seen by travelers, the scenic quality of the landscape, and the extent to which development intrudes upon the traveler's enjoyment of the view.

When a local jurisdiction nominates an eligible scenic highway for official designation, it must identify and define the scenic corridor of the highway. A scenic corridor is the land generally adjacent to and visible from the highway. A scenic highway designation protects the scenic values of an area. Jurisdictional boundaries of the nominating agency are also considered, and the agency must also adopt ordinances to preserve the scenic quality of the corridor or document such regulations that already exist in various portions of local codes. These ordinances make up the scenic corridor protection program.

To receive official designation, the local jurisdiction must follow the same process required for official designation of State Scenic Highways. The minimum requirements for scenic corridor protection include:

- Regulation of land use and density of development;
- Detailed land and site planning;
- Control of outdoor advertising (including a ban on billboards);
- Careful attention to and control of earthmoving and landscaping; and
- Careful attention to design and appearance of structures and equipment.

LOCAL

GLENN COUNTY UNIFIED DEVELOPMENT CODE

Chapter 15.570, Landscaping Standards, of the County Code contains several sections that regulate aesthetic or visual standards for development in the County. These include standards for landscaping of commercial and industrial developments; and requirements for the contents of landscape plans. Some of these standards including the following:

- All undeveloped land areas shall be maintained in permanent vegetative cover, or alternatively be landscaped with a combination of materials to control runoff. All yards shall be landscaped such that there shall be no accumulation of silt, mud or standing water causing unsightly or hazardous conditions, either within the yard or on adjacent properties, public roads or sidewalks. All development shall include an area or areas of the parcel for landscaping to serve as a visual screen and/or provide an increased aesthetic environment; except where street frontages are occupied by existing development.
- Landscaping shall not obstruct traffic or reduce sight distance at any driveway or intersection
- The rear of the lot shall be landscaped with a minimum of a five-foot-wide planted area when abutting any residential use or district; or a six-foot high wooden fence or masonry wall shall be constructed at the rear lot line.
- Where a parking lot contains five or more spaces and is visible from a street, not less than five percent of the parking lot, excluding the area of the landscaped strip. Such landscaping shall be distributed through the parking lot and shall not be concentrated in any one area. Landscaping shall be computed on the basis of the total amount of parking and driveways provided (except spaces provided for enclosed vehicle storage areas
- Protective measures including, but not limited to, concrete curbing, railroad ties or decorative rock shall border all landscaped areas.
- Existing or indigenous plant materials that meet the requirements of this section maybe counted as contributing to the total landscaping required when located within the proposed use area.
- Unless otherwise specifically indicated elsewhere all plant materials shall meet a following minimum standard.
- All landscaping shall be provided with a drip irrigation system or in-ground sprinkler system. If all plant materials are indigenous or drought-resistant, a temporary or portable irrigation system may be provided.

3.1.3 IMPACTS AND MITIGATION MEASURES

THRESHOLDS OF SIGNIFICANCE

Consistent with Appendix G of the CEQA Guidelines, the proposed project will have a significant impact on aesthetics if it will:

- 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;
- In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings (public views are those that are experienced from publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality;
- Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area.

IMPACTS AND MITIGATION MEASURES

Impact 3.1-1: General Plan implementation would not have a substantial adverse effect on the existing visual character or quality of public views, or on a scenic vista (Less than Significant)

While the Glenn County Planning Area contains numerous areas with scenic resources, there are no officially designated scenic vista points in the Planning Area. Additionally, as described above, there are no officially designated scenic highways located in the vicinity of Glenn County. A significant visual feature within the Glenn County Planning Area is Snow Mountain, and the Buttes.

The majority of existing areas within the County that are undeveloped and in a naturalized condition are designated for Agriculture, or conservation uses by both the existing and proposed General Plan Land Use Maps.

As noted in greater detail in the Project Description (Chapter 2.0), implementation of the proposed General Plan could lead to new and expanded development throughout the County. The new development may result in changes to the skyline throughout the Planning Area, which may obstruct or interfere with views of visual features surrounding the Planning Area. Furthermore, buildout under the proposed General Plan and implementation of the General Plan Land Use Map has the potential to result in new and expanded development near highway corridors with some potential scenic values, even though these corridors are not officially designated as State Scenic Highways.

The Glenn County General Plan has been developed to preserve expansive areas of agricultural lands and open spaces to ensure that new development is located in and around existing developed areas, thus ensuring that new development is primarily an extension of the existing developed landscape and minimizes interruption of views of nearby visual features. Future development would be required to be consistent with the proposed General Plan.

The implementation of the policies and actions contained in the General Plan listed below would ensure that the majority of new residential and non-residential development in the Glenn County Planning Area is generally located in and around existing developed areas and developed to be visually compatible with nearby developments and open space resources. Additionally, the implementation of the policies and actions contained in the Conservation and Sustainability Element would further ensure that new development is designed in a way that enhances the visual quality of the community, compliments the visual character of the County, and that adverse effects on public views are minimized. Through implementation of the policies and actions included in the General Plan, and listed below, implementation of the proposed General Plan would result in a **less than significant impact**.

GENERAL PLAN POLICIES AND ACTIONS THAT MINIMIZE POTENTIAL IMPACTS

LAND USE ELEMENT POLICIES

LU 1-3: Locate lands designated for future development based on constraints associated with natural features, such as soil, slope, and drainage, preservation of the County's resources, including agriculture, open space, and scenic views, and by public service availability, such as sewer and water capability.

LU 2-1: Concentrate future development within or adjacent to the communities that provide urban services, including Willows, Orland, Hamilton City, and Artois, with an emphasis on placing large-scale and more intense development projects in these population centers as opposed to other rural and remote areas that lack public services and amenities, or are not connected to an existing community.

LU 2-2: Make land use decisions that promote compact communities, generally filling in gaps of vacant and underutilized land between already developed areas before growing outward.

LU 2-3: Use the Agricultural Transition and Rural Residential land use designations to buffer agricultural and other types of open space from existing communities.

LU 2-4: Prohibit freestanding subdivisions and large-scale commercial developments that are isolated from existing communities, are outside of city and utility district spheres of influence, and/or lack access to urban-level services.

LU 2-5: To conserve open space and agricultural lands outside of planned urban areas and provide the efficient use of public services, make land use decisions that reinforce the cultural and economic viability of unincorporated community centers of the County, including Hamilton City, Artois, Glenn, Codora, and Ord Bend.

LU 2-6: Use the Urban Reserve Area land use designation to identify lands for future urban use and to delineate the maximum extent of urban growth that can occur around established communities.

3.1 AESTHETICS AND VISUAL RESOURCES

AGRICULTURAL LANDS ELEMENT POLICIES

AG 1-3: Recognize the importance of agriculture lands to Glenn County's economy and also in terms of agriculture's contribution to the preservation of open space, wildlife habitat, community identity, and environmental services.

CONSERVATION AND OPEN SPACE ELEMENT POLICIES

COS 1-1: Preserve open space for conservation, agricultural, and recreation uses, consistent with the Land Use Element and the Land Use Map.

COS 1-2: Recognize open space as essential to maintaining a high quality of life, providing visual relief, and maintaining a rural feel within the county.

COS 1-3: Support regional and local natural resource preservation plans and efforts that retain and protect open space within the county.

COS 1-4: Encourage public and private efforts to preserve open space.

COS 1-5: Support and encourage the preservation of agricultural lands throughout the county, consistent with the direction provided by the Land Use Element, Agricultural Resources Element, and the Land Use Map.

LAND USE ELEMENT ACTIONS

LU-2a: Provide land use and development proposals for proposed projects that are either located within the sphere of influence or within areas of concern or interest, as designated and adopted by LAFCO for the Cities of Willows or Orland to the appropriate city's Planning Department for review and comment.

LU-3a: Utilize density transitions in order to protect the integrity of existing land use patterns and minimize the impacts on existing uses and residents. It shall be County policy:

- 1. To locate lower residential densities adjacent to open space, areas of agricultural use, and existing lower density residential areas;*
- 2. To locate higher residential densities in proximity to services, transit, and/or employment activity centers;*
- 3. To require buffer lots in new residential developments that abut agricultural parcels.*

LU-3b: Amend the Unified Development Code to include an Energy Park Combining Zone and prepare an Energy Production Ordinance. The Energy Park Combining Zone and Energy Production Ordinance shall include standards including, but not limited to:

- a. Height, size and location of structures and facilities.*
- b. Protection of natural resources, including sensitive habitat, riparian areas, wetlands, and scenic viewsheds.*
- c. Setbacks from adjacent parcels to minimize or reduce land use conflicts.*

- d. *Adequate parking and circulation network improvements.*
- e. *Security and site access controls.*
- f. *Nighttime lighting.*
- g. *Noise, odors and other nuisances.*

CONSERVATION AND OPEN SPACE ELEMENT ACTIONS

COS-1a: Continue to work with local, regional, State, and Federal agencies to ensure that regional open space amenities remain publicly-accessible, well maintained, and provide for essential habitat.

Impact 3.1-2: General Plan implementation would not substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a State scenic highway (No Impact)

As discussed in the settings section, no adopted State scenic highway is located in Glenn County. There are no sections of highway in the Glenn County vicinity eligible for Scenic Highway designation.

No Impacts would be expected given that no adopted State scenic highways are located within the Planning Area, and that no scenic highways provide views of the Planning Area.

GENERAL PLAN POLICIES AND ACTIONS THAT MINIMIZE POTENTIAL IMPACTS

See General Plan policies and actions identified in Impact 3.1-1.

Impact 3.1-3: Project implementation would not conflict with an applicable zoning or other regulation governing scenic quality within an urbanized area. (No Impact)

CEQA Guidelines Section 15387 defines an “Urbanized Area” as a central city or a group of contiguous cities with a population of 50,000 or more, together with adjacent densely populated areas having a population density of at least 1,000 persons per square mile. In addition, to be considered an Urbanized Area according to CEQA, projects must also be within the boundary of a map prepared by the U.S. Bureau of the Census which designates the area as Urbanized Area. According to the U.S. Bureau of the Census, there are two “Urban Clusters” within the Planning Area (the Cities of Orland and Willows), but no Urbanized Areas. The County does not meet the CEQA Guidelines Section 15387 definition of an “Urbanized Area” and therefore there would be **no impact** relative to the specific environmental topic.

Additionally, Zoning and other regulations governing scenic quality applicable to Glenn County include Glenn County Unified Development Code, Glenn County Optional Design and Improvement Standards, City of Willows General Plan, City of Willows Design and Construction Standards, and City of Orland General Plan and development standards. Policies in the proposed General Plan are intended to complement and further the intent of these provisions regulating scenic quality and resources, and any development occurring under the proposed General Plan would be subject to compliance with these guidelines, as well as the applicable regulations set forth in the Glenn County Code. The proposed General Plan would therefore not substantially degrade the existing visual

3.1 AESTHETICS AND VISUAL RESOURCES

character or quality of public views of the Planning Area and its surroundings. In order to further ensure that future development allowed under the General Plan would not degrade the existing visual character of the environment, the County has included the following policies and actions in the General Plan.

GENERAL PLAN POLICIES AND ACTIONS THAT MINIMIZE POTENTIAL IMPACTS

See General Plan policies and actions identified in Impact 3.1-1.

Impact 3.1-4: General Plan implementation could result in the creation of new sources of nighttime lighting and daytime glare (Less than Significant)

The primary sources of daytime glare are generally sunlight reflecting from structures and other reflective surfaces and windows. Implementation of the proposed General Plan would introduce new sources of daytime glare into previously developed areas of the Planning Area and increase the amount of daytime glare in existing developed areas. The General Plan Land Use Map identifies areas for the future development of residential, commercial, industrial, conservation, recreational, and public uses. Such uses may utilize materials that produce glare. Daytime glare impacts would be most severe in the limited areas of the County that have not been previously disturbed, including the limited number of vacant parcels designated for developed land uses, and in areas that receive a high level of daily viewership.

The primary sources of nighttime lighting are generally from exterior building lights, street lights, and vehicle headlights. Exterior lighting around commercial and industrial areas may be present throughout the night to facilitate extended employee work hours, ensure worker safety, and to provide security lighting around structures and facilities. Nighttime lighting impacts would be most severe in areas that do not currently experience high levels of nighttime lighting. Increased nighttime lighting can reduce visibility of the night sky, resulting in fewer stars being visible and generally detracting from the quality of life in Glenn County. Future development would be required to be consistent with the General Plan, as well as lighting and design requirements in the Glenn County Code. The proposed General Plan contains policy LU 2-14 which would ensure that new developments are designed to be context sensitive to adjacent properties.

Through the implementation of these policies in conjunction with the Glenn County Code during the development review process, the County can ensure that adverse impacts associated with daytime glare and nighttime lighting are **less than significant**.

GENERAL PLAN POLICIES AND ACTIONS THAT MINIMIZE POTENTIAL IMPACTS

LAND USE ELEMENT POLICIES

LU 2-14: Require proposed urban and rural residential development to be consistent with the following:

Rural Residential

- *The soil is determined to be suitable for septic tank use by the Environmental Health*

Department

- *Groundwater is determined to be sufficient to support a well by the Environmental Health Department and Glenn Groundwater Authority*
- *The parcel can be made accessible from a public street*
- *It can be demonstrated that the development is compatible with surrounding uses and will not have a significant, adverse effect on adjoining properties.*
- *The area is accessible for fire protection and can meet fire resistance guidelines if located in a high hazard area.*
- *It can be demonstrated that potable water is available.*

Urban Residential (includes Single Family and Multi Family Residential)

- *The community utility systems, including water, drainage, and sewer, if available, can accommodate the additional demand.*
- *The area has access to a major transportation route and reasonable access to transit service.*
- *The impact of the development on local streets can be mitigated to acceptable levels.*
- *Adequate fire protection measures are provided.*
- *The site adjoins existing urban (residential, commercial, public facility, etc.) development.*
- *The project avoids the repetition of residential facades/designs within subdivisions.*
- *The development is compact, is sensitive to natural resources, public safety, efficiently uses water and energy, maximizes bicycle and pedestrian opportunities, provides multi-modal connections to nearby neighborhoods, bike/pedestrian routes and trails, and provides direct, safe routes to services, schools, and shopping.*

LAND USE ELEMENT ACTIONS

Action LU-1q: Through the development review and permit process, screen development proposals for land use compatibility, including potential conflicts with adjacent uses and operations.

Action LU-3b: Amend the Unified Development Code to include an Energy Park Combining Zone and prepare an Energy Production Ordinance. The Energy Park Combining Zone and Energy Production Ordinance shall include standards including, but not limited to:

- a. Height, size and location of structures and facilities.*
- b. Protection of natural resources, including sensitive habitat, riparian areas, wetlands, and scenic viewsheds.*
- c. Setbacks from adjacent parcels to minimize or reduce land use conflicts.*
- d. Adequate parking and circulation network improvements.*
- e. Security and site access controls.*
- f. Nighttime lighting.*
- g. Noise, odors and other nuisances.*

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This section provides a background discussion of agricultural lands, agricultural resources, and forest/timber resources. This section is organized with an environmental setting, regulatory setting, and impact analysis. Information in this section is derived primarily from the California Important Farmlands Map (California Department of Conservation, 2016), the California Land Conservation (Williamson) Act Status Report (California Department of Conservation, 2016), the Glenn County Annual Crop & Livestock Report (Glenn County Agricultural Commissioner, 2017), and the Natural Resources Conservation Service (NRCS) Web Soil Survey (NRCS, 2019).

No comments on this environmental topic were received during the NOP comment period.

3.2.1 ENVIRONMENTAL SETTING

AGRICULTURAL RESOURCES

Glenn County occupies a north-central location in California's vast agricultural heartland, the Sacramento Valley. The County's Agricultural Commissioner's most recent published Agricultural Reports (2017 and 2018) contains the following information relating to agriculture in the county.

Glenn County has a total land area of 1,327 square miles, of which 1,314 square miles is land and 13 square miles is water. The total acreage of crop land in the county is approximately 347,652 acres. The gross value of agricultural production in Glenn County for 2017 was \$839,509,000, which represents a 12 percent increase from 2016 when gross production value totaled \$748,461,000. The 2018 gross production of agricultural commodities was valued at \$729,125,000. This represents a 13 percent decrease from 2017.

Important Farmlands

The California Department of Conservation (DOC), as part of its Farmland Mapping and Monitoring Program (FMMP), prepares Important Farmland Maps indicating the potential value of land for agricultural production. The Glenn County Important Farmland Map identifies five agriculture-related categories and three non-agricultural categories:

Prime Farmland: Prime farmland is land with the best combination of physical and chemical features able to sustain long term agricultural production. This land has the soil quality, growing season, and moisture supply needed to produce sustained high yields. The land must have been used for irrigated agricultural production at some time during the four years prior to the mapping date.

Farmland of Statewide Importance: Farmland of statewide importance is farmland similar to Prime Farmland but with minor shortcomings, such as greater slopes or less ability to store soil moisture. The land must have been used for irrigated agricultural production at some time during the four years prior to the mapping date.

Unique Farmland: Unique farmland is farmland of lesser quality soils used for the production of the State's leading agricultural crops. This land is usually irrigated, but may include non-irrigated orchards or vineyards as found in some climatic zones in California. Land must have been cropped at some time during the four years prior to the mapping date.

Farmland of Local Importance: Farmland of local importance is considered land important to the local agricultural economy but does not meet the criteria of Prime Farmland, Farmland of Statewide Importance, or Unique Farmland.

Grazing Land: Grazing land is land on which the existing vegetation is suitable for the grazing of livestock. This category was developed in cooperation with the California Cattlemen's Association, University of California Cooperative Extension, and other groups interested in the extent of grazing activities. The minimum mapping unit for this category is 40 acres.

Urban and Built-up Land: This category consists of non-agricultural land occupied by structures with a building density of at least 1 unit to 1.5 acres, or approximately 6 structures to a 10-acre parcel. This land is used for residential, industrial, commercial, construction, institutional, public administration, railroad and other transportation yards, cemeteries, airports, golf courses, sanitary landfills, sewage treatment, water control structures, and other developed purposes.

Other Land: Other land is non-agricultural land not included in any other mapping category. Common examples include low density rural developments; brush, timber, wetland, and riparian areas not suitable for livestock grazing; confined livestock, poultry, or aquaculture facilities; strip mines and borrow pits; and water bodies smaller than 40 acres. Vacant and non-agricultural land surrounded on all sides by urban development and greater than 40 acres is mapped as Other Land.

Water Area: This category consists of bodies of water.

Important Farmlands in Planning Area

The Farmland Mapping and Monitoring Program (FMMP) is a farmland classification system administered by the California Department of Conservation. Important farmland maps are based on the Land Inventory and Monitoring criteria, which classify a land's suitability for agricultural production based on both the physical and chemical characteristics of soils, and the actual land use. The system maps five categories of agricultural land, which include important farmlands (prime farmland, farmland of statewide importance, unique farmland, and farmland of local importance) and grazing land, as well as three categories of non-agricultural land, which include urban and built-up land, other land, and water area.

The State of California Department of Conservation Farmland Mapping and Monitoring Program was used to illustrate the farmland characteristics for the Planning Area. Farmlands in the Planning Area are identified in Table 3.2-1 and are shown on Figure 3.2-1. The farmland classifications for the site and surrounding area are described below.

TABLE 3.2-1: FARMLAND CLASSIFICATION

LAND CLASSIFICATION	ACREAGES	% OF TOTAL
D - Urban and Built-Up Land	3,858.70	0.5%
G - Grazing Land	225,287.64	26.6%
L - Farmland of Local Importance	28,929.93	3.4%
LP - Farmland of Local Potential	52,697.08	6.2%
P - Prime Farmland	158,306.96	18.7%
S - Farmland of Statewide Importance	89,048.61	10.5%
U - Unique Farmland	19,496.20	2.3%
W - Water Area	5,803.53	0.7%
X - Other Land	261,979.33	31.0%
Grand Total	845,407.97	100.0%

SOURCE: CALIFORNIA DEPARTMENT OF CONSERVATION; NRCS CUSTOM WEB SOIL SURVEY, 2019

Farmland Preservation

The Williamson Act authorizes each County to establish an agricultural preserve. Land that is within the agricultural preserve is eligible to be placed under a contract between the property owner and County that would restrict the use of the land to agriculture in exchange for a tax assessment that is based on the yearly production yield. The contracts have a 10-year term that is automatically renewed each year, unless the property owner requests a non-renewal or the contract is cancelled. If the contract is cancelled the property owner is assessed a fee of up to 12.5 percent of the property value.

Farmland Security Zones (FSZs) are similar to Williamson Act contracts, in that the intention is to protect farmland from conversion. The main difference however, is that the FSZ must be designated as Prime Farmland, Farmland of Statewide Importance, Unique Farmland, or Farmland of Local Importance. The term of the contract is a minimum of 20 years. The property owners are offered an incentive of greater property tax reductions when compared to the Williamson Act contract tax incentives; the incentives were developed to encourage conservation of prime farmland through FSZs. The non-renewal and cancellation procedures are similar to those for Williamson Act contracts.

Table 3.2-2 shows lands within the County that are under a Williamson Act contract or within a FSZ. Figure 3.2-2 shows Williamson Act Contracts and FSZs within the County. Of the 424,515.67 acres of Williamson Act Contract and/or FSZ lands, approximately 1,064.06 acres are in non-renewal.

3.2 AGRICULTURAL AND FOREST RESOURCES

TABLE 3.2-2: SUMMARY OF WILLIAMS ACT CONTRACTS

<i>CONTRACT LOCATION AND TYPE</i>	<i>TOTAL ACRES</i>
Farmland Security Zone	90,736.59
Mixed Enrollment Agricultural Land	332,715.02
Nonrenewal	1,064.06
Total	424,515.67

FARMLAND MAPPING AND MONITORING PROGRAM, GLENN COUNTY, 2016.

FOREST RESOURCES

Forest land is defined by Public Resources Code Section 12220(g). Forest land includes *"land that can support 10-percent native tree cover of any species, including hardwoods, under natural conditions, and that allows for management of one or more forest resources, including timber, aesthetics, fish and wildlife, biodiversity, water quality, recreation, and other public benefits."*

Timber land is defined by Public Resources Code Section 4526, and means *"land, other than land owned by the federal government and land designated by the board as experimental forest land, which is available for, and capable of, growing a crop of trees of a commercial species used to produce lumber and other forest products, including Christmas trees. Commercial species shall be determined by the board on a district basis."*

Portion of the western county are within the Mendocino National Forest which contain forest and timber resources.

3.2.2 REGULATORY SETTING

FEDERAL

Farmland Protection Policy Act

The Natural Resources Conservation Service (NRCS), an agency within the U.S. Department of Agriculture, is responsible for implementation of the Farmland Protection Policy Act (FPPA). The purpose of the FPPA is to minimize Federal programs' contribution to the conversion of farmland to non-agricultural uses by ensuring that Federal programs are administered in a manner that is compatible with State, local, and private programs designed to protect farmland. The NRCS provides technical assistance to Federal agencies, State and local governments, tribes, and nonprofit organizations that desire to develop farmland protection programs and policies. The NRCS summarizes FPPA implementation in an annual report to Congress.

Farm and Ranch Lands Protection Program

The NRCS administers the Farm and Ranch Lands Protection Program (FRPP), a voluntary program aimed at keeping productive farmland in agricultural uses. Under the FRPP, the NRCS provides matching funds to State, local, or tribal government entities and nonprofit organizations with existing farmland protection programs to purchase conservation easements. According to the 1996 Farm Bill which establishes the program, the goal of the Farm and Ranch Lands Protection Program is to protect between 170,000 and 340,000 acres of farmland per year. Participating landowners agree not to convert the land to non-agricultural use and retain all rights to use the property for

agriculture. A conservation plan must be developed for all lands enrolled based upon the standards contained in the NRCS Field Office Technical Guide. A minimum of 30 years is required for conservation easements and priority is given to applications with perpetual easements. The NRCS provides up to 50 percent of the fair market value of the easement being conserved. To qualify for a conservation easement, farm or ranch land must meet several criteria. The land must be:

- Prime, Unique, or other productive soil, as defined by NRCS based on factors such as water moisture regimes, available water capacity, developed irrigation water supply, soil temperature range, acid-alkali balance, water table, soil sodium content, potential for flooding, erodibility, permeability rate, rock fragment content, and soil rooting depth;
- Included in a pending offer to be managed by a nonprofit organization, State, tribal, or local farmland protection program;
- Privately owned;
- Placed under a conservation plan;
- Large enough to sustain agricultural production;
- Accessible to markets for the crop that the land produces; and
- Surrounded by parcels of land that can support long-term agricultural production.

STATE

California Department of Conservation

The California Department of Conservation (DOC) administers and supports a number of programs, including the Williamson Act, the California Farmland Conservancy Program (CFCP), the Williamson Act Easement Exchange Program (WAEPP), and the Farmland Mapping and Monitoring Program (FMMP). These programs are designed to preserve agricultural land and provide data on conversion of agricultural land to urban use. The DOC has authority for the approval of agreements entered into under the WAEPP. Key DOC tools available for land conservation planning are conservation grants, tax incentives to keep land in agriculture or open space, and farmland mapping and monitoring.

Williamson Act

The California Land Conservation Act, also known as the Williamson Act, was adopted in 1965 to encourage the preservation of the State's agricultural lands and to prevent their premature conversion to urban uses. In order to preserve these uses, the Act established an agricultural preserve contract procedure by which any county or city taxes landowners at a lower rate, using a scale based on the actual use of the land for agricultural purposes, as opposed to its unrestricted market value. In return, the owners guarantee that these properties remain under agricultural production for a 10-year period. The contract is self-renewing; however, the landowner may notify the county or city at any time of the intent to withdraw the land from its preserve status. There are two means by which the landowner may withdraw the land from its contract preserve status. First, the landowner may seek to cancel the contract. This takes the land out of the contract quickly with a minimal waiting period, but the landowner pays a statutory penalty to the State. Second, the landowner may notice a non-renewal or seek a partial non-renewal of the contract. Land withdrawal through the non-renewal process involves a 9- or 10-year period (depending on the timing of the

notice) of tax adjustment to full market value before protected open space can be converted to urban uses.

Williamson Act subvention payments to local governments have been suspended since the fiscal year 2009-10 due to the State's fiscal constraints. The Williamson Act contracts between landowners and local governments remain in force, regardless of the availability of subvention payments.

Farmland Security Zones

A Farmland Security Zone is an area created within an agricultural preserve by a board of supervisors (board) or city council (council) upon request by a landowner or group of landowners. An agricultural preserve defines the boundary of an area within which a city or county will enter into contracts with landowners. The boundary is designated by resolution of the board or council having jurisdiction. Agricultural preserves must generally be at least 100 acres in size. Farmland Security Zone contracts offer landowners greater property tax reduction. Land restricted by a Farmland Security Zone contract is valued for property assessment purposes at 65% of its Williamson Act valuation or 65% of its Proposition 13 valuation, whichever is lower.

Forest Practices Rules

The California Department of Forestry and Fire Protection (CalFire) implements the laws that regulate timber harvesting on privately-owned lands. These laws are contained in the Z'berg-Nejedly Forest Practice Act of 1973 which established a set of rules known as the Forest Practice Rules (FPRs) to be applied to forest management related activities (i.e., timber harvests, timberland conversions, fire hazard removal, etc.). They are intended to ensure that timber harvesting is conducted in a manner that will preserve and protect fish, wildlife, forests, and streams. Under the Forest Practice Act, a Timber Harvesting Plan (THP) is submitted to CalFire by the landowner outlining what timber is proposed to be harvested, harvesting method, and the steps that will be taken to prevent damage to the environment. If the landowner intends to convert timberland to non-timberland uses, such as a winery or vineyard, a Timberland Conversion Permit (TCP) is required in addition to the THP. It is CalFire's intent that a THP will not be approved which fails to adopt feasible mitigation measures or alternatives from the range of measures set out or provided for in the Forest Practice Rules, which would substantially lessen or avoid significant adverse environmental impacts resulting from timber harvest activities. THPs are required to be prepared by Registered Professional Foresters (RPFs) who are licensed to prepare these plans. For projects involving TCPs, CalFire acts as lead agency under CEQA, and the county or city acts as a responsible agency.

Mendocino National Forest Plan (1995)

The Mendocino forest plan provides the framework to guide the ongoing land and resource management operations of the National Forest. The goal of the Plan is to provide a management program reflecting a mix of activities for the use and protection of the Forest. It fulfills legislative requirements while addressing local, regional, and national issues. To accomplish this, the Forest Plan:

- establishes the management direction and associated long-range goals and objectives for the Forest;
- specifies the standards, approximate timing, and vicinity of the practices necessary to implement that direction; and

- establishes the monitoring and evaluation requirements needed to ensure that the direction is being carried out, and to determine if outputs and effects have been reasonably estimated.

The forest plan is a strategic document that provides guidance for but does not make project level decisions. Those decisions are made after more detailed, site-specific environmental analysis and further public comment. The National Forest Management Act (NFMA) requires that resource plans and permits, contracts, and other instruments issued for the use and occupancy of National Forest System lands be consistent with the forest plan. The following are some examples of project decisions that require more detailed environmental analysis:

- Timber harvesting and related activities, such as slash disposal and road construction.
- Range allotment management plans.
- Fish or wildlife habitat improvement projects.
- Watershed improvement projects.
- Developed recreation sites or trail construction

LOCAL

Local Agency Formation Commission Boundary Controls

The Glenn Local Agency Formation Commission (LAFCO) is responsible for coordinating orderly amendments to local jurisdictional boundaries, including annexations. Annexations by cities or the extension of unincorporated community boundaries would be subject to LAFCO approval, and LAFCO's decision is governed by state law (Gov't Code § 56001 et seq.) and the local LAFCO Policies and Procedures. State law requires LAFCOs to consider agricultural land and open space preservation in all decisions related to expansion of urban development. LAFCO's definition of Prime agricultural land refers to California Government Code Section 56064.3, which is described above under the State Regulatory Setting.

Glenn County Code Farmland Security Zone (15.470.010)

The Farmland Security Zone is to be applied to lands which are covered by a Farmland Security Zone Contract as allowed by the California Land Conservation Act (as amended) for the following purposes:

- A. To preserve the maximum amount of the limited supply of agricultural land which is vital for the healthy agricultural economy of the County;
- B. To protect the general welfare of the agricultural community from encroachments of unrelated agricultural uses which, by their nature, would be injurious to the physical and economic well-being of the agricultural community;
- C. To provide a unique zoning district for the Farmland Security Zone to meet the requirements of the State Law and the landowners under Farmland Security Zone Contracts.

Glenn County Right To Farm (Ord. 1183 § 2, 2006)

It is the declared policy of this county to enhance and encourage agricultural operations within the county. It is the further intent of this county to provide to the residents of this county proper

3.2 AGRICULTURAL AND FOREST RESOURCES

notification of the county's recognition and support through this chapter of those persons and/or entities rights to farm.

B. Where nonagricultural land uses extend into agricultural areas or exist side by side, agricultural operations are frequently the subject of nuisance complaints and are forced to cease or curtail operations. Such actions discourage investments in farm improvements to the detriment of adjacent agricultural uses and the economic viability of the county's agricultural industry as a whole. It is the purpose and intent of this chapter to reduce the loss to the county of its agricultural resources by limiting the circumstances under which agricultural operations may be considered a nuisance.

An additional purpose of this chapter is to promote a good neighbor policy between agricultural and nonagricultural property owners by advising purchasers and users of property adjacent to or near agricultural operations of the inherent potential problems associated with such purchases or residence, including but not limited to the noises, odors, dust and chemicals, smoke and hours of operation that may accompany agricultural operations and be prepared to accept attendant conditions as the natural result of living in or near rural areas.

3.2.3 IMPACTS AND MITIGATION MEASURES

THRESHOLDS OF SIGNIFICANCE

Consistent with Appendix G of the CEQA Guidelines, the proposed project will have a significant impact on agricultural and forest resources if it will:

- Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use;
- Conflict with existing zoning for agricultural use, or a Williamson Act contract;
- Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 1222(g)) or timberland (as defined in Public Resources Code section 4526);
- Result in the loss of forest land or conversion of forest land to non-forest use; or
- Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use.

IMPACTS AND MITIGATION MEASURES

Impact 3.2-1: General Plan implementation may result in the conversion of farmlands, including Prime Farmland and Unique Farmland, to non-agricultural use (Significant and Unavoidable)

As shown in Table 3.2-1, there are Important Farmlands located within the County limits, including Prime Farmland, Farmland of Statewide Importance, Unique Farmland, and Farmland of Local Importance. As shown on the General Plan Land Use Map (Figure 2.0-2) lands within the County limits are planned for additional development. Therefore, it is assumed that the agricultural viability of the Important Farmlands within the Planning Area may be lost upon full buildout of the General Plan.

The General Plan emphasizes and prioritizes infill development. However, county-wide development is also focused in and around the incorporated communities in the County, which will overtime require growth into areas of undeveloped lands including agricultural lands within the County.

As shown in Table 3.2-1, there are 158,306.96 acres of Prime Farmland, 89,048.61 acres of Farmland of Statewide Importance, 19,496.20 acres of Unique Farmland, and 28,929.93 acres of Farmland of Local Importance in the Planning Area.

Table 3.2-3 identifies the proposed land use designation for the Important Farmland areas located in the Planning Area. As shown in this table, of the 289,178.81 acres of Important Farmland located within the Planning Area, 280,335.01 acres (approximately 96.9%) are assigned land use designations on the General Plan Land Use Map that would protect the agricultural viability of the land.

TABLE 3.2-3: FMMP FARMLAND CLASSIFICATION AND LAND USE DESIGNATIONS IN THE PLANNING AREA

<i>LAND USE DESIGNATION</i>	<i>FARMLAND OF LOCAL IMPORTANCE (ACRES)</i>	<i>PRIME FARMLAND (ACRES)</i>	<i>FARMLAND OF STATEWIDE IMPORTANCE (ACRES)</i>	<i>UNIQUE FARMLAND (ACRES)</i>	<i>GRAND TOTAL (ACRES)</i>
Agricultural/Residential	0.57	4.39	63.45	24.55	92.96
Business Park Light Industrial	115.74	36.43	262.00	0.07	414.24
Community Commercial	35.77	134.61	32.67	0.03	203.08
Highway and Service Commercial	144.37	454.10	439.85	100.59	1,138.91
Industrial	316.40	737.86	302.42	164.11	1,520.79
Mixed Use	3.67	72.64	0.00	-	76.31
Multiple Family Residential	9.53	33.60	2.11	0.17	45.40
Public Facilities	19.76	17.18	0.69	0.24	37.88
Recreation	14.67	0.00	0.42	0.13	15.22
Rural Residential	1,110.32	1,161.83	320.47	170.56	2,763.18
Rural Service Center	19.94	20.29	-	-	40.23
Single Family Residential	128.45	1,016.91	223.27	26.49	1,395.12
Suburban Residential	480.08	376.60	94.78	149.01	1,100.48
Land Use That Would Protect the Agricultural Viability					
Ag Transition	103.86	236.33	104.32	13.63	458.14
Foothill Agriculture/Forestry	6,443.35	1,555.08	975.71	3,576.71	12,550.85
General Agriculture	1,979.59	5,487.92	4,058.81	286.32	11,812.64
Intensive Agriculture	17,092.45	141,861.80	79,561.60	14,298.98	252,814.82
Urban Reserve	81.69	1,794.63	782.44	39.80	2,698.55
Grand Total	28,100.21	155,002.20	87,225.00	18,851.40	289,178.81

SOURCE: CALIFORNIA DEPARTMENT OF CONSERVATION, 2018; DE NOVO PLANNING GROUP, 2022.

As described in greater detail in Section 2.0 of this EIR, the Open Space designation identifies lands that are permanently protected from future urban development through the application of

3.2 AGRICULTURAL AND FOREST RESOURCES

conservation easements or other formal mechanisms to ensure that open space uses are continued in perpetuity. The Urban Reserve designation serves as a placeholder for future urban development. Lands designated as Urban Reserve shall not be extensively subdivided or developed until it is appropriate to develop the lands with urban levels of residential, commercial, parks and recreation, and public/semi-public uses. It is expected that more specific planning and feasibility studies will be required prior to the development of these areas.

As shown in Table 3.2-3, approximately 8,843.80 acres of Important Farmlands, including Prime Farmland, Farmland of Statewide Importance, Unique Farmland, and Farmland of Local Importance may be converted to urban land uses upon full buildout of the Planning Area. Most of these urban land uses will be Rural Residential, Single Family Residential, Industrial, Highway and Service Commercial, and Suburban Residential.

The proposed Glenn County General Plan includes a wide range of policies and actions aimed at protecting and preserving agricultural lands within the Planning Area. The lands within the Planning Area that are identified for future urban land uses are generally located adjacent to the city limits, and along transportation corridors near the city limits. As shown on the Land Use Map, the General Plan avoids potential “leap-frog” development by promoting a compact land use plan that prioritizes development within and adjacent to existing urbanized areas.

The Glenn County General Plan has taken a proactive approach towards focusing new growth and development towards infill locations, and protecting open space areas and agricultural lands throughout the Planning Area to the greatest extent feasible. The applicable policies and actions that provide protection and preservation of agricultural lands are identified below.

However, as described above, implementation of the proposed Glenn County General Plan may lead to the urbanization of Important Farmlands located adjacent to unincorporated communities and the city limits on inculcated areas within the Planning Area. The policies and actions listed below would minimize this impact. However, this is considered a **significant and unavoidable** impact.

GENERAL PLAN POLICIES AND ACTIONS THAT MINIMIZE POTENTIAL IMPACTS

LAND USE ELEMENT POLICIES

LU 2-5: To conserve open space and agricultural lands outside of planned urban areas and provide the efficient use of public services, make land use decisions that reinforce the cultural and economic viability of unincorporated community centers of the County, including Hamilton City, Artois, Glenn, Codora, and Ord Bend.

LU 2-10: Encourage clustering of residential development when parcels are adjacent to commercial agricultural lands, so as to place dwellings as far as possible from the agricultural land.

AGRICULTURAL ELEMENT POLICIES

AG 1-1: Maintain agriculture as a primary, extensive land use.

AG 1-2: Support the continuation of agricultural uses on lands planned for other intensive uses, including areas designated as Urban Reserve Areas until urban development transitions are approved.

AG 1-3: Recognize the importance of agriculture lands to Glenn County's economy and also in terms of agriculture's contribution to the preservation of open space, wildlife habitat, community identity, and environmental services.

AG 1-4: Discourage land fragmentation which would result in the decline of agricultural productivity, or resource conservation.

AG 1-5: Encourage use of agricultural lands preservation tools such as in-county transfer of development rights, conservation easements, exclusive agricultural zoning and continuation of minimum parcel sizes.

AG 1-6: Provide an orderly and phased development pattern, encouraging the development of vacant lands within city boundaries, community areas, and/or in areas adjacent to existing development, prior to conversion of unconnected agricultural lands, so that farmland is not subjected to premature development pressure or leapfrog developments.

AG 1-7: The County shall protect areas designated by the California Department of Conservation as prime, statewide importance, unique and locally important farmlands which are located outside of areas planned for growth, consistent with the General Plan Land Use Map, from intensive development and urban encroachment that would convert or diminish the agricultural value or productivity of the lands.

AG 1-8: Retain grazing land in large contiguous areas of the foothills, in recognition of its value to the livestock industry and as open space for watershed management, and its contribution to groundwater recharge, wildlife and waterfowl, and potential for wildfire abatement. The conversion of grazing lands to water intensive agricultural uses, such as orchards, is strongly discouraged.

AG 1-9: Support the U.S.D.A Soil Conservation Service efforts to update soils survey information in Glenn County.

AG 1-10: Maintain urban limit lines around existing communities, development nodes and other areas of urban use, in an effort to protect agricultural land and to encourage infill development and growth.

AG 1-11: Consult Important Farmland Maps and other sources of information on the relative value of agricultural lands when planning areas of growth, in order to direct growth and development toward lesser value agricultural lands.

AG 1-12: Maintain minimum parcel size for agricultural uses consistent with the General Plan's Land Use Descriptions and Zoning code for each parcel.

ECONOMIC DEVELOPMENT ELEMENT POLICIES

ED 2-5: Consistent with the Land Use Map, focus new development around the incorporated cities and established communities in order to preserve and protect agricultural lands and enhance the County's agricultural base.

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CONSERVATION AND OPEN SPACE ELEMENT POLICIES

COS 1-5: Support and encourage the preservation of agricultural lands throughout the county, consistent with the direction provided by the Land Use Element, Agricultural Resources Element, and the Land Use Map.

AGRICULTURAL ELEMENT ACTIONS

Action AG-1: Continue to utilize Farmland Security Zones through the application of the “FS” Farmland Security Zoning Designation (Glenn County Code Chapter 15.470).

Action AG-1b: Work with the Local Agency Formation Commission (LAFCO) on issues of mutual concern including the conservation of agricultural land through consistent use of LAFCO policies, particularly those related to conversion of agricultural lands and establishment of adequate buffers between agricultural and non-agricultural uses, and the designation of a reasonable and logical Sphere of Influence (SOI) and Urban Limit Line (ULL) boundaries for the incorporated cities and unincorporated community areas.

Action AG-1c: Work with the cities of Willows and Orland to implement consistent policies for agricultural lands within the County’s jurisdiction, and within the planning areas of each City.

Action AG-1d: Maintain County policies to address consistency with the Williamson Act and future amendments.

Action AG-1e: Consider impacts to agricultural lands, soils, and agricultural productivity when reviewing new development projects, amendments to the General Plan, and rezoning applications.

Action AG-1f: Continue to prepare and present annual reports for crop production and land conversion. Annual reports compiled by the Department of Conservation and the Agricultural Department’s Office should be presented to the local decision makers and relevant commissions including the Board of Supervisors, and Planning Commission.

Action AG-1g: Explore the feasibility of creating and adopting a Farmland Conservation Program in which developers will be required to permanently protect agricultural land of equal or greater value in place of land that is converted from an agricultural to a non-agricultural designation. This ordinance may include:

- *The option of paying an in-lieu fee that would contribute to an agricultural resource protection fund that could be used to purchase voluntary conservation easements or complete other projects that will protect and conserve agricultural land.*
- *The program should establish mitigation standards that address the valuation and geographic location of agricultural land.*
- *The program should be reviewed and adjusted periodically to ensure that the fee is adequate to offset the cost of purchasing farmland conservation easements at a 1:1 ratio to mitigate impacts from the conversion of Prime Farmland and Farmland of Statewide Importance.*

CONSERVATION AND OPEN SPACE ELEMENT ACTIONS

Action COS-1b: Work with the Local Agency Formation Commission (LAFCO) on issues of mutual concern including the conservation of agricultural land through consistent use of LAFCO policies, particularly those related to conversion of agricultural lands and establishment of adequate buffers between agricultural and nonagricultural uses, and the designation of a reasonable and logical Sphere of Influence (SOI) boundaries for the community areas within the county.

ECONOMIC DEVELOPMENT ELEMENT ACTIONS

Action ED-2a: Discourage, and in some instances prohibit, the conversion of land designated for agriculture to other uses, consistent with the policy direction provided in the Land Use Element.

Impact 3.2-2: General Plan implementation may result in conflicts with existing Williamson Act Contracts (Significant and Unavoidable)

There are approximately 90,736.59 acres of Farmland Security Zone (FSZ), 332,715.02 acres of Mixed Enrollment Agricultural Land, and 1,064.06 acres of Nonrenewal Areas within the Planning Area that are currently under Williamson Act contract. Figure 3.2-2 depicts the distribution of Williamson Act Contract lands in the Planning Area.

TABLE 3.2-4: WILLIAMSON ACT CONTRACT AND LAND USE DESIGNATIONS IN THE PLANNING AREA

<i>LAND USE DESIGNATION</i>	<i>FARMLAND SECURITY ZONE</i>	<i>MIXED ENROLLMENT AGRICULTURAL LAND</i>	<i>NONRENEWAL</i>	<i>GRAND TOTAL</i>
Community Commercial	-	66.36	-	66.36
Highway and Service Commercial	123.63	42.84	-	166.47
Mixed Use	-	70.67	-	70.67
Public Facilities	-	17.32	-	17.32
Single Family Residential	142.61	110.87	-	253.48
Land Use That Would Protect the Agricultural Viability				
Ag Transition	-	1.47	-	1.47
Foothill Agriculture/Forestry	-	236,443.85	167.93	236,611.78
Intensive Agriculture	90,470.36	95,331.28	896.13	186,697.76
Urban Reserve	-	630.35	-	630.35
Grand Total	90,736.59	332,715.02	1,064.06	424,515.67

SOURCE: CALIFORNIA DEPARTMENT OF CONSERVATION, 2018; DE NOVO PLANNING GROUP, 2022.

As shown in the Table 3.2-4, adoption of the proposed General Plan would lead to land use designation changes to 574.30 acres of parcels under a Williamson Act Contract within the Planning Area. Most of these parcels will be changed to Single Family Residential and Highway and Service Commercial uses. These parcels are currently used for agricultural purposes and may not continue to be used for agricultural purposes following adoption of the General Plan. These parcels have been assigned an urban land use designation by the General Plan Land Use Map, which may lead to the urbanization of these parcels, and the cessation of agricultural operations, during the life of the General Plan.

As described in greater detail under Impact 3.2-1 above, the General Plan includes a comprehensive set of policies and actions aimed at protecting, enhancing, and preserving agricultural lands and agricultural resources throughout the Planning Area. However, implementation of the General Plan would assign urban land uses to approximately 574.30 acres of land under a Williamson Act Contract. This is considered a **significant and unavoidable** impact. The policies and actions listed under Impact 3.2-1 would reduce this impact to the greatest extent feasible, but not to a less than significant level.

GENERAL PLAN POLICIES AND ACTIONS THAT MINIMIZE POTENTIAL IMPACTS

See policies and actions identified in Impact 3.2-1

Impact 3.2-3: Conflict with Existing Zoning of Forest or Timber Production (less than significant)

Lands in the County that are currently zoned as forest land, timber, or timber production include the TPZ Timberland Preserve Zone, RZ Recreation Zone, and FA Foothill Agricultural/Forestry Zone. The Proposed General Plan carries forward and retains the Foothill Agriculture/Forestry Land Use Designation as well as the Recreation Land Use designation. Neither of these designations conflicts with lands currently designation for forest uses or timber production. Additionally land use map changes proposed by the General Plan Update included small cleanup edits and changes to land uses near development portions of the county and no substantial land use changes were included within areas of the county that include forest and timber resources that would conflict with the existing conservation uses or zoning. Therefore, implementation of the General Plan would have a **less than significant** impact on existing zoning of forest or timberland.

Impact 3.2-4: Result in the Loss or Conversion of Forest Land (less than significant)

Forest resources and timber production are included within the western portions of the county within the Mendocino National Forest. The General Plan has retained the land use designation Foothill Agriculture/Forestry, as well as the Recreation Land Use designation which are compatible with and are applied to lands within the Mendocino National Forest. The Foothill Agriculture/Forestry, as well as the Recreation Land Use designations will only allow uses that are compatible with forest and timberland production activities, including timber production, forestry, natural wilderness, and other uses that are compatible with forest lands, including low impact recreational uses, agricultural uses, and very low density residential uses. By specifically designating lands within the Mendocino National Forest and requiring development of zoning categories that would allow limited uses on these lands, the General Plan ensures that the Forest Lands will be appropriately conserved and that future uses on the lands would not result in a significant loss or conversion of forest or timberlands. Policies and associated actions will guide future uses on forest lands to ensure that the forest is managed appropriately and that future uses do not conflict with the existing forest lands. As such, Impacts from the loss or conversion of forest land are **less than significant**.

GENERAL PLAN POLICIES AND ACTIONS THAT MINIMIZE POTENTIAL IMPACTS

CONSERVATION AND OPEN SPACE ELEMENT POLICIES

COS 7-1: Conserve and maintain forest resources so that they may be enjoyed by a wide range of users including campers, hikers, hunters, OHV users, and others.

COS 7-2: Support the Mendocino National Forest Plan for timber resource use and participate in the planning process when updates to the plan occur.

COS 7-3: Encourage forest management and timber harvesting activities (e.g., reforestation, timber stand improvement, stream corridor and water quality protection) that improve forest health, reduce fire fuel loads, and promote economic activity.

COS 7-4: Discourage new development in heavily wooded forest areas.

COS 7-5: Support and cooperate with CalFire in its responsibilities related to timber and forest practice laws.

COS 7-6: Support and encourage opportunities for public and private timber lands to be compatible with and provide for recreational opportunities and open space uses.

CONSERVATION AND OPEN SPACE ELEMENT ACTIONS

Action COS-8a: Coordinate closely with the Mendocino National Forest, if development is proposed for private lands within the Forest.

Action COS-8b: Review timber harvest plans for compatibility and consistency with the General Plan.

Action COS-8c: Evaluate development applications, rezoning, land use change requests, and use permits in the context of the potential uses and their associated potential impacts on surrounding timberlands.

Impact 3.2-5: General Plan implementation would not involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use (Less than Significant)

As discussed under Impact 3.2-4 the potential for the General Plan to result in the loss or conversion of forest land is considered less than significant. The General Plan does not re-designate any lands within the Mendocino National forest for developed uses. Adherence to the policies and actions stated above under Impact 3.2-4 would ensure that projects support forest and timber uses and would support compatible uses throughout the Planning Area.

As discussed in Impacts 3.2-1, future development in accordance with the proposed General Plan would result in the conversion of farmland to a non-agricultural use. The proposed General Plan would allow new urban uses that have the potential to conflict with existing agricultural operations. Future development in areas within the Planning Area may involve other changes in the existing environment that could result in the conversion of farmland. However, as mentioned previously the proposed General Plan includes policies which would reduce the impact of development resulting

3.2 AGRICULTURAL AND FOREST RESOURCES

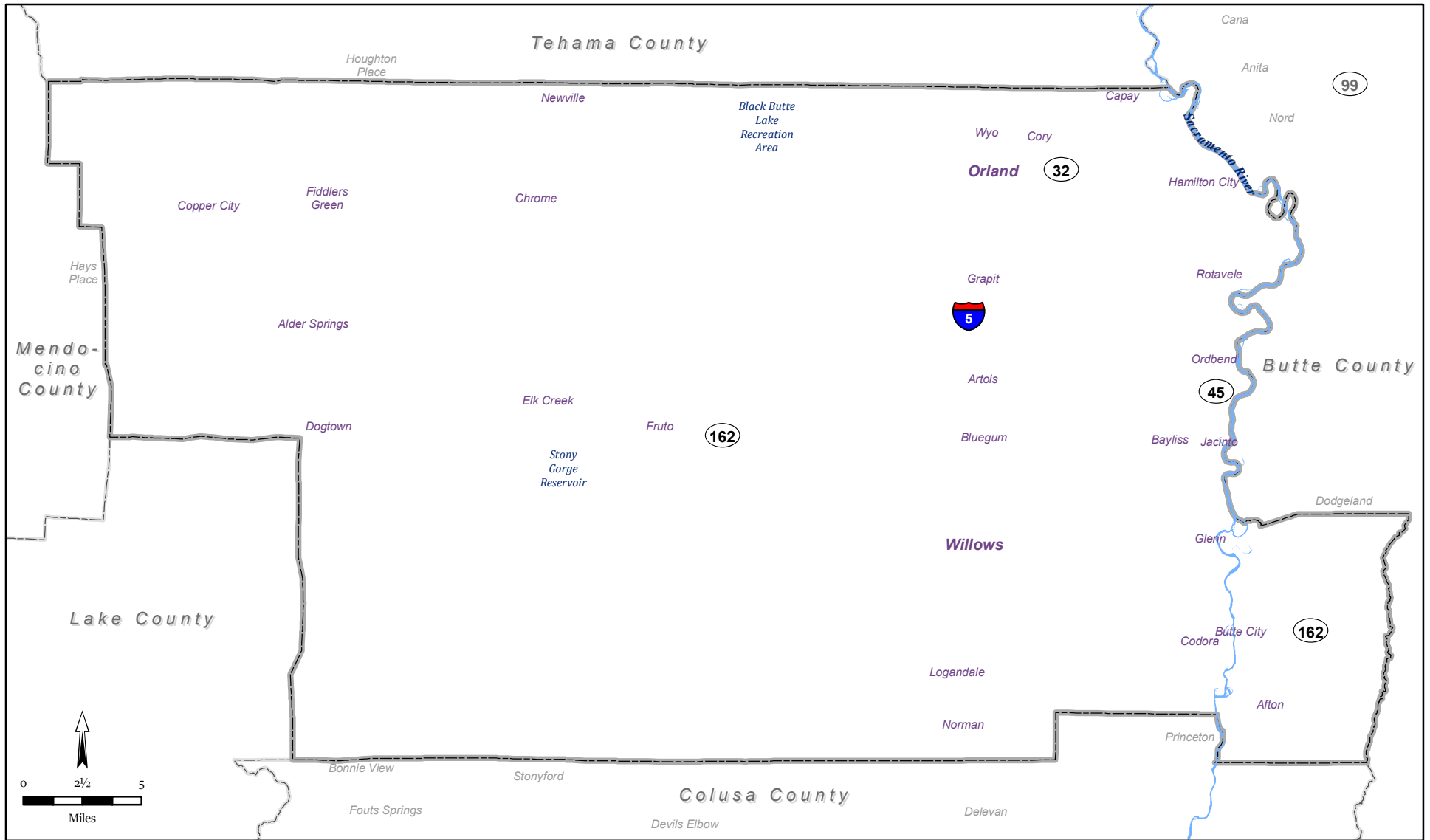
in the conversion of existing farmland. This includes policies which encourage agricultural land uses while supporting the continuation of agricultural operations and activities within the Planning Area.

Adherence to the policies and actions stated above under Impact 3.2-1 would ensure that projects include adequate measures to buffer project uses from adjacent agricultural uses and would reduce adverse effects on neighboring agricultural uses, while supporting ongoing agricultural operations within the Planning Area.

Therefore, the proposed General Plan would result in a *less than significant* impact involving other changes in the existing environment that could result in the conversion of farmland or forest land.

GENERAL PLAN POLICIES AND ACTIONS THAT MINIMIZE POTENTIAL IMPACTS










See policies and actions identified in Impact 3.2-1 and Impact 3.2-4.



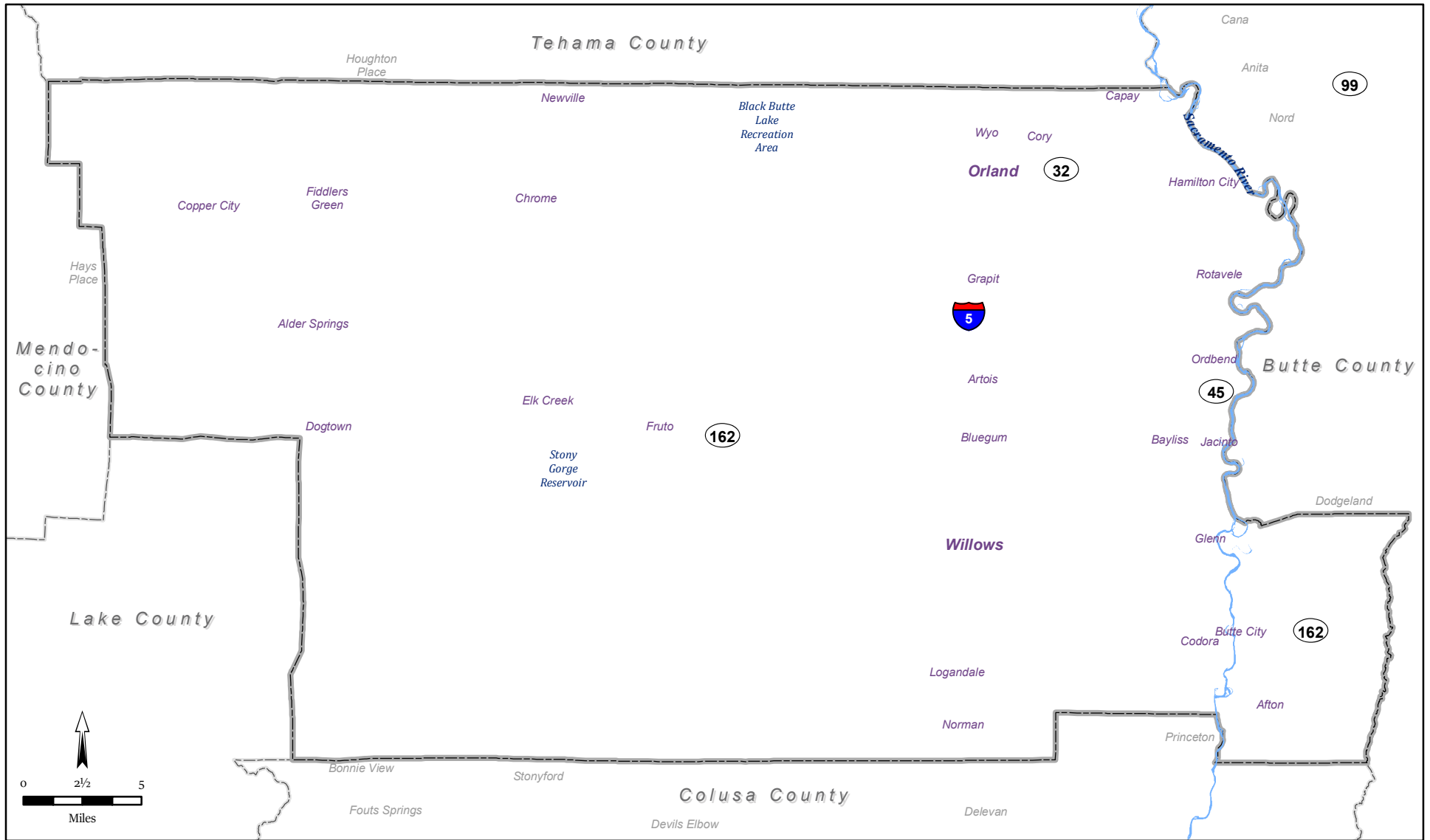
Sources: California Department of Conservation, Farmland Mapping and Monitoring Program, Glenn County 2016. Map date: June 26, 2019.

COUNTY OF GLENN, CALIFORNIA

TABLE 3.2-1: FARMLAND CLASSIFICATION

Legend	
	Prime Farmland (±158,102 acres)
	Farmland of Statewide Importance (±88,660 acres)
	Unique Farmland (±18,023 acres)
	Grazing Land (±227,062 acres)
	Farmland of Local Importance (±28,473 acres)
	Farmland of Local Potential (±54,358 acres)
	Other Land (±261,950 acres)
	Urban and Built-Up Land (±6,499 acres)
	Water Area (±5,928 acres)

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Sources: California Department of Conservation, Division of Land Resource Protection, Glenn Co, FY 2015-16. Map date: June 28, 2019.

COUNTY OF GLENN, CALIFORNIA

FIGURE 3.2-2. WILLIAMSON ACT LANDS

Legend

- Farmland Security Zone (±90,826 acres)
- Non-Renewal (±1,064 acres)
- Mixed Enrollment Agricultural Land (±333,004 acres)

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This section describes the regional air quality, current attainment status of the air basin, local sensitive receptors, emission sources, and impacts that are likely to result from project implementation. Information presented in this section is based in part on information gathered from the Glenn County Air Pollution Control District (APCD) and the California Air Resources Board (CARB).

There were no comments received during the public review period for the NOP related to air quality. The Greenhouse Gases, Climate Change, and Energy analysis is in Section 3.7 of this document.

3.3.1 ENVIRONMENTAL SETTING

SACRAMENTO VALLEY AREA AIR BASIN

Glenn County is located within the Sacramento Valley Air Basin (SVAB). The SVAB is the northern half of California's Great Valley and is bordered on three sides (west, north, and east) by mountain ranges, with peaks in the eastern range above 9,000 feet. Figure 3.3-1 delineates the boundary of the SVAB. The SVAB is approximately 13,700 square miles and essentially a smooth valley floor with elevations ranging from 40 to 500 feet. The rolling valley is interrupted by the Sutter Buttes, an area of 80 square miles in northern Sutter County, which rise abruptly to more than 2,100 feet above the valley floor.

The SVAB consists of 13 counties and is split into two planning sections based on the degree of pollutant transport from one area to the other and the level of emissions within each area. The Glenn County area belongs to the Northern Sacramento Valley Air Basin (NSVAB), which is composed of the seven northern-most counties of the SVAB. These counties include Butte, Colusa, Glenn, Shasta, Sutter, Tehama, and Yuba.

The NSVAB has been categorized as "moderately" non-attainment for ozone and particulate matter under the state standards. The air basin of the Sacramento Valley is about 200 miles long in a north-south direction, and has a maximum width of about 150 miles, although the width of the valley floor only averages about 50 miles.

Air Movement

The Sacramento Valley portion of the air basin forms a bowl, bounded on the west by the Coast Ranges, on the north by the Cascade Range, and on the east by the Sierra Nevada. These mountain ranges reach heights exceeding 7,000 feet above sea level. During summer, the wide, flat expanse of the Sacramento Valley provides an ideal environment for the formation of photochemical smog. Moreover, the prevailing winds in the Sacramento Valley blow from south to north, driven by the marine air traveling through the Carquinez Strait. These winds can transport pollutants from the broader Sacramento area and from the San Francisco Bay Area to the Northern Sacramento Valley Air Basin. The mountain ranges that surround the Northern Sacramento Valley Air Basin provide a physical barrier to continued movement of the air mass, significantly hindering the dispersal of pollutants.

Generally, the County experiences moderate to very poor capability to disperse pollutants nearly 80 percent of the time. This is, in large measure, due to the relatively stable atmosphere which acts to

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suppress vertical air movement. Extremely stable atmospheric conditions referred to as "inversions" act as barriers to pollutants. In valley locations under 1,000 ft, they create a "lid" under which pollutants are trapped. Dust and other pollutants can become trapped within these inversion layers and will not disperse until atmospheric conditions become more unstable. This situation creates concentrations of pollutants at or near the ground surface which pose significant health risks for plants, animals, and people.

Inversions occur in the SVAB with great frequency in all seasons. The most stable inversions occur in late summer and fall. The summertime inversions are often the result of marine air pushing under an overlying warm air mass. These are termed "marine inversions" and are generally accompanied by brisk afternoon winds, which provide good air circulation.

In contrast, many autumn inversions are the result of warm air subsiding in a high-pressure cell where accompanying light winds do not provide adequate dispersion. Autumn inversions limit vertical mixing, creating a very stable layer of air with very light or calm winds. These inversions are usually present on clear cold nights during late fall and winter. In the morning, these ground based inversions are weakened and eventually eliminated by solar heating. As a result, they are strongest in the late night and early morning, when ground-level temperatures are coldest and solar radiation is low.

Seasonal Pollution Variations

Carbon monoxide, oxides of nitrogen, particulate matters, and lead particulate concentrations in the late fall and winter are highest when there is little interchange of air between the valley and the coast and when humidity is high following winter rains. This type of weather is associated with radiation fog, known as tule fog, when temperature inversions at ground level persist over the entire valley for several weeks and air movement is virtually absent.

Pollution potential in the Glenn County area is relatively high due to the combination of air pollutant emissions sources, transport of pollutants into the area and meteorological conditions that are conducive to high levels of air pollution. Elevated levels of particulate matter (primarily very small particulates or PM₁₀) and ground-level ozone are of most concern to regional air quality officials.

Local carbon monoxide "hot spots" are important to a lesser extent. Ground-level ozone, the principal component of smog, is not directly emitted into the atmosphere but is formed by the reaction of reactive organic gases (ROG) and nitrogen oxides (NOx) (known as ozone precursor pollutants) in the presence of strong sunlight. Ozone levels are highest in Glenn County during late spring through early fall, when weather conditions are conducive and emissions of the precursor pollutants are highest.

Surface-based inversions that form during late fall and winter nights cause localized air pollution problems (PM₁₀ and carbon monoxide) near the emission sources because of poor dispersion conditions. Emission sources are primarily from automobiles. Conditions are exacerbated during drought-year winters.

CRITERIA POLLUTANTS

All criteria pollutants can have human health and environmental effects at certain concentrations. The United States Environmental Protection Agency (USEPA) uses six "criteria pollutants" as indicators of air quality, and has established for each of them a maximum concentration above which adverse effects on human health may occur. These threshold concentrations are called National Ambient Air Quality Standards (NAAQS). In addition, California establishes ambient air quality standards, called California Ambient Air Quality Standards (CAAQS). California law does not require that the CAAQS be met by a specified date as is the case with NAAQS.

The ambient air quality standards for the six criteria pollutants (as shown in Table 3.3-1) are set to protect public health and the environment within an adequate margin of safety (as provided under Section 109 of the Federal Clean Air Act). Epidemiological, controlled human exposure, and toxicology studies evaluate potential health and environmental effects of criteria pollutants, and form the scientific basis for new and revised ambient air quality standards. Principal characteristics and possible health and environmental effects from exposure to the six primary criteria pollutants generated by the Project are discussed below.

Ozone (O₃) is a photochemical oxidant and the major component of smog. While ozone in the upper atmosphere is beneficial to life by shielding the earth from harmful ultraviolet radiation from the sun, high concentrations of ozone at ground level are a major health and environmental concern. Ozone is not emitted directly into the air but is formed through complex chemical reactions between precursor emissions of volatile organic compounds (VOC)¹ and oxides of nitrogen (NO_x) in the presence of sunlight. These reactions are stimulated by sunlight and temperature so that peak ozone levels occur typically during the warmer times of the year. Both VOCs and NO_x are emitted by transportation and industrial sources. VOCs are emitted from sources as diverse as autos, chemical manufacturing, dry cleaners, paint shops and other sources using solvents.

The reactivity of ozone causes health problems because it damages lung tissue, reduces lung function and sensitizes the lungs to other irritants. Scientific evidence indicates that ambient levels of ozone not only affect people with impaired respiratory systems, such as asthmatics, but healthy adults and children as well. Exposure to ozone for several hours at relatively low concentrations has been found to significantly reduce lung function and induce respiratory inflammation in normal, healthy people during exercise. This decrease in lung function generally is accompanied by symptoms including chest pain, coughing, sneezing and pulmonary congestion.

Studies show associations between short-term ozone exposure and non-accidental mortality, including deaths from respiratory issues. Studies also suggest long-term exposure to ozone may increase the risk of respiratory-related deaths (U.S. Environmental Protection Agency 2019a). The concentration of ozone at which health effects are observed depends on an individual's sensitivity, level of exertion (i.e., breathing rate), and duration of exposure. Studies show large individual differences in the intensity of symptomatic responses, with one study finding no symptoms to the

¹ The CARB uses the term "Reactive Organic Gases" (ROG) in place of "Volatile Organic Compounds" (VOC).

3.3 AIR QUALITY

least responsive individual after a 2-hour exposure to 400 parts per billion of ozone and a 50 percent decrement in forced airway volume in the most responsive individual. Although the results vary, evidence suggest that sensitive populations (e.g., asthmatics) may be affected on days when the 8-hour maximum ozone concentration reaches 80 parts per billion (U.S. Environmental Protection Agency 2019b). The average background level of ozone in the California and Nevada is approximately 48.3 parts per billion, which represents approximately 77 percent of the total ozone in the western region of the U.S. (NASA, 2015).

In addition to human health effect, ozone has been tied to crop damage, typically in the form of stunted growth, leaf discoloration, cell damage, and premature death. Ozone can also act as a corrosive and oxidant, resulting in property damage such as the degradation of rubber products and other materials. Ozone concentrations tend to be highest in summer and lowest in winter.

Over long-term timeframes, ozone concentrations in California have decreased (California Air Resources Board, 2019b). On a more local level, data from the California Resources Board shows an approximately 11 percent reduction in ozone levels in the SCAB region from 1992 to 2011 (California Air Resources Board, 2014). The California Air Resources Board (CARB) also forecasts that emissions of VOCs and NOx in the SCAB will continue to reduce over time (CARB, 2013).

Carbon monoxide (CO) is a colorless, odorless, and poisonous gas produced by incomplete burning of carbon in fuels. Carbon monoxide is harmful because it binds to hemoglobin in the blood, reducing the ability of blood to carry oxygen. This interferes with oxygen delivery to the body's organs. The most common effects of CO exposure are fatigue, headaches, confusion, and dizziness due to inadequate oxygen delivery to the brain. For people with cardiovascular disease, short-term CO exposure can further reduce their body's already compromised ability to respond to the increased oxygen demands of exercise, exertion, or stress. Inadequate oxygen delivery to the heart muscle leads to chest pain and decreased exercise tolerance. Unborn babies whose mothers experience high levels of CO exposure during pregnancy are at risk of adverse developmental effects (California Air Resources Board, 2019c). Exposure to CO at high concentrations can also cause fatigue, headaches, confusion, dizziness, and chest pain. There are no ecological or environmental effects to ambient CO (California Air Resources Board, 2019d).

Very high levels of CO are not likely to occur outdoors. However, when CO levels are elevated outdoors, they can be of particular concern for people with some types of heart disease. These people already have a reduced ability for getting oxygenated blood to their hearts in situations where the heart needs more oxygen than usual. They are especially vulnerable to the effects of CO when exercising or under increased stress. In these situations, short-term exposure to elevated CO may result in reduced oxygen to the heart accompanied by chest pain also known as angina (USEPA, 2016). Such acute effects may occur under current ambient conditions for some sensitive individuals, while increases in ambient CO levels increases the risk of such incidences.

CO concentrations tend to be highest in fall and winter and lowest in spring and summer. Over the long-term, CO concentrations have decreased throughout the United States. Average concentrations of CO have reduced from approximately 333 parts per billion in 2000 to

approximately 132 parts per billion in 2017, in California and Nevada (i.e. the West region, as defined by the USEPA) (USEPA, 2018).

Nitrogen dioxide (NO₂) is a brownish, highly reactive gas that is present in all urban atmospheres. The main effect of increased NO₂ is the increased likelihood of respiratory problems. Under ambient conditions, NO₂ can irritate the lungs, cause bronchitis and pneumonia, and lower resistance to respiratory infections. Nitrogen oxides are an important precursor both to ozone and acid rain, and may affect both terrestrial and aquatic ecosystems. Longer exposures to elevated concentrations of NO₂ may contribute to the development of asthma and potentially increase susceptibility to respiratory infections. People with asthma, as well as children and the elderly are generally at greater risk for the health effects of NO₂.

The major mechanism for the formation of NO₂ in the atmosphere is the oxidation of the primary air pollutant nitric oxide (NO_x). NO_x plays a major role, together with VOCs, in the atmospheric reactions that produce ozone. NO_x forms when fuel is burned at high temperatures. The two major emission sources are transportation and stationary fuel combustion sources such as electric utility and industrial boilers.

NO₂ concentrations tend to be highest in winter and lowest in summer. Over the long-term, nitrogen dioxide concentrations have generally been decreasing throughout the United States (USEPA, 2018). Average concentrations of NO₂ have reduced from approximately 69 parts per billion in 2000 to approximately 48 parts per billion in 2017, in California and Nevada (i.e. the West region, as defined by the USEPA) (USEPA, 2018). Data from the CARB shows a reduction in NO₂ emissions in the SFBAAB from 1992 to 2011 (California Air Resources Board, 2014).

Sulfur dioxide (SO₂) is one of the multiple gaseous oxidized sulfur species and is formed during the combustion of fuels containing sulfur, primarily coal and oil. The largest anthropogenic source of SO₂ emissions in the U.S. is fossil fuel combustion at electric utilities and other industrial facilities. SO₂ is also emitted from certain manufacturing processes and mobile sources, including locomotives, large ships, and construction equipment.

SO₂ affects breathing and may aggravate existing respiratory and cardiovascular disease in high doses. Sensitive populations include asthmatics, individuals with bronchitis or emphysema, children and the elderly. SO₂ is also a primary contributor to acid deposition, or acid rain, which causes acidification of lakes and streams and can damage trees, crops, historic buildings and statues. In addition, sulfur compounds in the air contribute to visibility impairment in large parts of the country. This is especially noticeable in national parks. Ambient SO₂ results largely from stationary sources such as coal and oil combustion, steel mills, refineries, pulp and paper mills and from nonferrous smelters.

Short-term exposure to ambient SO₂ has been associated with various adverse health effects. Multiple human clinical studies, epidemiological studies, and toxicological studies support a causal relationship between short-term exposure to ambient SO₂ and respiratory morbidity. The observed health effects include decreased lung function, respiratory symptoms, and increased emergency department visits and hospitalizations for all respiratory causes. These studies further suggest that

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people with asthma are potentially susceptible or vulnerable to these health effects. In addition, SO₂ reacts with other air pollutants to form sulfate particles, which are constituents of fine particulate matter (PM_{2.5}). Inhalation exposure to PM_{2.5} has been associated with various cardiovascular and respiratory health effects (USEPA, 2017). Increased ambient SO₂ levels would lead to increased risk of such effects.

SO₂ emissions that lead to high concentrations of SO₂ in the air generally also lead to the formation of other sulfur oxides (SO_x). SO_x can react with other compounds in the atmosphere to form small particles. These particles contribute to particulate matter (PM) pollution. Small particles may penetrate deeply into the lungs and in sufficient quantity can contribute to health problems.

Over the long-term, sulfur dioxide concentrations have decreased throughout the United States (USEPA, 2018). Average concentrations of SO₂ have reduced from approximately 17.6 parts per billion in 2000 to approximately 6.2 parts per billion in 2017 at monitoring sites in California and Nevada (i.e. the West region, as defined by the USEPA) (USEPA, 2018).

Particulate matter (PM) includes dust, dirt, soot, smoke and liquid droplets directly emitted into the air by sources such as factories, power plants, cars, construction activity, fires and natural windblown dust. Particles formed in the atmosphere by condensation or the transformation of emitted gases such as SO₂ and VOCs are also considered particulate matter. PM is generally categorized based on the diameter of the particulate matter: PM₁₀ is particulate matter 10 micrometers or less in diameter (known as respirable particulate matter), and PM_{2.5} is particulate matter 2.5 micrometers or less in diameter (known as fine particulate matter).

Based on studies of human populations exposed to high concentrations of particles (sometimes in the presence of SO₂) and laboratory studies of animals and humans, there are major effects of concern for human health. These include effects on breathing and respiratory symptoms, aggravation of existing respiratory and cardiovascular disease, alterations in the body's defense systems against foreign materials, damage to lung tissue, carcinogenesis and premature death. Small particulate pollution has even health impacts even at very low concentrations – indeed no threshold has been identified below which no damage to health is observed.

Respirable particulate matter (PM₁₀) consists of small particles, less than 10 microns in diameter, of dust, smoke, or droplets of liquid which penetrate the human respiratory system and cause irritation by themselves, or in combination with other gases. Particulate matter is caused primarily by dust from grading and excavation activities, from agricultural uses (as created by soil preparation activities, fertilizer and pesticide spraying, weed burning and animal husbandry), and from motor vehicles, particularly diesel-powered vehicles. PM₁₀ causes a greater health risk than larger particles, since these fine particles can more easily penetrate the defenses of the human respiratory system.

Fine particulate matter (PM_{2.5}) consists of small particles, which are less than 2.5 microns in size. Similar to PM₁₀, these particles are primarily the result of combustion in motor vehicles, particularly diesel engines, as well as from industrial sources and residential/agricultural activities such as burning. It is also formed through the reaction of other pollutants. As with PM₁₀, these particulates

can increase the chance of respiratory disease, and cause lung damage and cancer. In 1997, the USEPA created new Federal air quality standards for PM_{2.5}.

The major subgroups of the population that appear to be most sensitive to the effects of particulate matter include individuals with chronic obstructive pulmonary or cardiovascular disease or influenza, asthmatics, the elderly and children. Particulate matter also soils and damages materials, and is a major cause of visibility impairment.

Numerous studies have linked PM exposure to premature death in people with preexisting heart or lung disease, nonfatal heart attacks, irregular heartbeat, aggravated asthma, decreased lung function, and increased respiratory symptoms. Studies show that every 1 microgram per cubic meter reduction in PM_{2.5} results in a one percent reduction in mortality rate for individuals over 30 years old (Bay Area Air Quality Management District, 2017). Long-term exposures, such as those experienced by people living for many years in areas with high particle levels, have been associated with problems such as reduced lung function and the development of chronic bronchitis – and even premature death. Additionally, depending on its composition, both PM₁₀ and PM_{2.5} can also affect water quality and acidity, deplete soil nutrients, damage sensitive forests and crops, affect ecosystem diversity, and contribute to acid rain (U.S. Environmental Protection Agency, 2019c).

PM concentrations tend to be highest in winter and spring and lowest in summer. The CARB identifies that total emissions of diesel PM in the SFBAAB region have decreased from 9 tons/day in 2000 to 2 tons per day in 2015.

Lead (Pb) exposure can occur through multiple pathways, including inhalation of air and ingestion of Pb in food, water, soil or dust. Once taken into the body, lead distributes throughout the body in the blood and is accumulated in the bones. Depending on the level of exposure, lead can adversely affect the nervous system, kidney function, immune system, reproductive and developmental systems and the cardiovascular system. Lead exposure also affects the oxygen carrying capacity of the blood. Excessive Pb exposure can cause seizures, mental retardation and/or behavioral disorders. Low doses of Pb can lead to central nervous system damage. Recent studies have also shown that Pb may be a factor in high blood pressure and subsequent heart disease.

Lead is persistent in the environment and can be added to soils and sediments through deposition from sources of lead air pollution. Other sources of lead to ecosystems include direct discharge of waste streams to water bodies and mining. Elevated lead in the environment can result in decreased growth and reproductive rates in plants and animals, and neurological effects in vertebrates.

Lead exposure is typically associated with industrial sources; major sources of lead in the air are ore and metals processing and piston-engine aircraft operating on leaded aviation fuel. Other sources are waste incinerators, utilities, and lead-acid battery manufacturers. The highest air concentrations of lead are usually found near lead smelters. As a result of the USEPA's regulatory efforts, including the removal of lead from motor vehicle gasoline, levels of lead in the air decreased by 98 percent between 1980 and 2014 (USEPA, 2019d). Based on this reduction of lead in the air over this period,

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and since most new developments do not generate an increase in lead exposure, the health impacts of ambient lead levels are not typically monitored by the CARB.

AMBIENT AIR QUALITY STANDARDS

Both the U.S. EPA and the CARB have established ambient air quality standards for common pollutants. These ambient air quality standards represent safe levels of contaminants that avoid specific adverse health effects associated with each pollutant.

The federal and California state ambient air quality standards are summarized in Table 3.3-1 for important pollutants. The federal and state ambient standards were developed independently, although both processes attempted to avoid health-related effects. As a result, the federal and state standards differ in some cases. In general, the California state standards are more stringent. This is particularly true for ozone, PM_{2.5}, and PM₁₀.

The U.S. Environmental Protection Agency established new national air quality standards for ground-level ozone and for fine particulate matter in 1997. The 1-hour ozone standard was phased out and replaced by an 8-hour standard of 0.075 PPM. Implementation of the 8-hour standard was delayed by litigation, but was determined to be valid and enforceable by the U.S. Supreme Court in a decision issued in February of 2001. In April 2005, the Air Resources Board approved a new eight-hour standard of 0.070 ppm and retained the one-hour ozone standard of 0.09 after an extensive review of the scientific literature. The U.S. EPA signed a final rule for the Federal ozone eight-hour standard of 0.070 ppm on October 1, 2015, and was effective as of December 28, 2015.

TABLE 3.3-1: FEDERAL AND STATE AMBIENT AIR QUALITY STANDARDS

POLLUTANT	AVERAGING TIME	FEDERAL PRIMARY STANDARD	STATE STANDARD
Ozone	1-Hour	--	0.09 ppm
	8-Hour	0.070 ppm	0.070 ppm
Carbon Monoxide	8-Hour	9.0 ppm	9.0 ppm
	1-Hour	35.0 ppm	20.0 ppm
Nitrogen Dioxide	Annual	0.053 ppm	0.03 ppm
	1-Hour	0.100 ppm	0.18 ppm
Sulfur Dioxide	Annual	0.03 ppm	--
	24-Hour	0.14 ppm	0.04 ppm
	1-Hour	0.075 ppm	0.25 ppm
PM ₁₀	Annual	--	20 ug/m ³
	24-Hour	150 ug/m ³	50 ug/m ³
PM _{2.5}	Annual	12 ug/m ³	12 ug/m ³
	24-Hour	35 ug/m ³	--
Lead	30-Day Avg.	--	1.5 ug/m ³
	3-Month Avg.	0.15 ug/m ³	--

NOTES: PPM = PARTS PER MILLION, $\mu\text{G}/\text{M}^3$ = MICROGRAMS PER CUBIC METER

SOURCE: CALIFORNIA AIR RESOURCES BOARD, 2020.

In 1997, new national standards for fine particulate matter diameter 2.5 microns or less (PM_{2.5}) were adopted for 24-hour and annual averaging periods. The current PM₁₀ standards were to be retained, but the method and form for determining compliance with the standards were revised.

In addition to the criteria pollutants discussed above, Toxic Air Contaminants (TACs) are another group of pollutants of concern. TACs are injurious in small quantities and are regulated despite the

absence of criteria documents. The identification, regulation and monitoring of TACs is relatively recent compared to that for criteria pollutants. Unlike criteria pollutants, TACs are regulated on the basis of risk rather than specification of safe levels of contamination.

Existing air quality concerns within Glenn County and the entire NSVPA are related to increases of regional criteria air pollutants (e.g., ozone and particulate matter), exposure to toxic air contaminants, odors, and increases in greenhouse gas emissions contributing to climate change. The primary source of ozone (smog) pollution is motor vehicles which account for 70 percent of the ozone in the region. Particulate matter is caused by dust, primarily dust generated from construction and grading activities, and smoke which is emitted from fireplaces, wood-burning stoves, and agricultural burning.

Attainment Status

In accordance with the California Clean Air Act (CCAA), the CARB is required to designate areas of the state as attainment, nonattainment, or unclassified with respect to applicable standards. An “attainment” designation for an area signifies that pollutant concentrations did not violate the applicable standard in that area. A “nonattainment” designation indicates that a pollutant concentration violated the applicable standard at least once, excluding those occasions when a violation was caused by an exceptional event, as defined in the criteria.

Depending on the frequency and severity of pollutants exceeding applicable standards, the nonattainment designation can be further classified as serious nonattainment, severe nonattainment, or extreme nonattainment, with extreme nonattainment being the most severe of the classifications. An “unclassified” designation signifies that the data do not support either an attainment or nonattainment status. The CCAA divides districts into moderate, serious, and severe air pollution categories, with increasingly stringent control requirements mandated for each category.

The U.S. EPA designates areas for ozone, CO, and NO₂ as “does not meet the primary standards,” “cannot be classified,” or “better than national standards.” For SO₂, areas are designated as “does not meet the primary standards,” “does not meet the secondary standards,” “cannot be classified,” or “better than national standards.” However, the CARB terminology of attainment, nonattainment, and unclassified is more frequently used.

Glenn County has a national designation for either Unclassified or Attainments for all criteria pollutants. The County has a state designation as non-attainment for PM10. The County is designated either attainment or unclassified for the remaining state standards.

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TABLE 3.3-2: STATE AND NATIONAL ATTAINMENT STATUS

CRITERIA POLLUTANTS	STATE DESIGNATIONS	NATIONAL DESIGNATIONS
8-Hour Ozone	Attainment	Unclassified/Attainment
PM10	Nonattainment	Unclassified
PM2.5	Attainment	Unclassified/Attainment
Carbon Monoxide	Unclassified	Unclassified/Attainment
Nitrogen Dioxide	Attainment	Unclassified/Attainment
Sulfur Dioxide	Attainment	Unclassified/Attainment
Sulfates	Attainment	No Federal Standard
Lead	Attainment	Unclassified/Attainment
Hydrogen Sulfide	Unclassified	No Federal Standard
Visibility Reducing Particles	Unclassified	No Federal Standard

SOURCES: CALIFORNIA AIR RESOURCES BOARD (2018). WWW.ARB.CA.GOV/DESIG/ADM/ADM.HTM

Monitoring Data

The Glenn County APCD and CARB maintain one air quality monitoring site in Glenn County, located on Colusa Street in the City of Willows. It is important to note that the federal ozone 1-hour standard was revoked by the EPA and is no longer applicable for federal standards. Table 3.3-3 provides the aggregated statistics obtained from the monitoring sites in Glenn County between 2015 and 2017 for ozone (1-hour and 8-hour), PM₁₀, and PM_{2.5}.

TABLE 3.3-3: AMBIENT AIR QUALITY MONITORING DATA (WILLOWS-COLUSA)

POLLUTANT	CAL.	FED.	YEAR	MAX CONCENTRATION	DAYS (SAMPLES) STATE/FED STANDARD EXCEEDED
	PRIMARY STANDARD				
Ozone (O3) (1-hour)	0.09 ppm for 1 hour	NA	2015	0.080	0/NA
			2016	0.070	0/NA
			2017	0.068	0/NA
Ozone (O3) (8-hour)	0.07 ppm for 8 hours	0.07 ppm for 8 hours	2015	0.072	0/0
			2016	0.070	0/0
			2017	0.068	0/0
Particulate Matter (PM10)	50 ug/m3 for 24 hours	150 ug/m3 for 24 hours	2015	118.0	*/0
			2016	79.6	*/0
			2017	181.7	*/1.0
Fine Particulate Matter (PM2.5)	No 24 hour State Standard	35 ug/m3 for 24 hours	2015	31.8	NA/*
			2016	31.1	NA/*
			2017	55.2	NA/*

SOURCES: CALIFORNIA AIR RESOURCES BOARD (ADAM) AIR POLLUTION SUMMARIES, 2015, 2016, AND 2017.

NOTES:

PPM = PARTS PER MILLION.

UG/M3 = MICRONS PER CUBIC METER.

NA= NOT APPLICABLE

*= THERE WAS INSUFFICIENT (OR NO) DATA AVAILABLE TO DETERMINE THE VALUE

ODORS

Typically, odors are regarded as an annoyance rather than a health hazard. However, manifestations of a person's reaction to foul odors can range from psychological (e.g., irritation, anger, or anxiety) to physiological (e.g., circulatory and respiratory effects, nausea, vomiting, and headache).

With respect to odors, the human nose is the sole sensing device. The ability to detect odors varies considerably among the population and overall is quite subjective. Some individuals have the ability to smell minute quantities of specific substances; others may not have the same sensitivity but may have sensitivities to odors of other substances. In addition, people may have different reactions to the same odor; in fact, an odor that is offensive to one person (e.g., from a fast-food restaurant) may be perfectly acceptable to another.

It is also important to note that an unfamiliar odor is more easily detected and is more likely to cause complaints than a familiar one. This is because of the phenomenon known as odor fatigue, in which a person can become desensitized to almost any odor and recognition only occurs with an alteration in the intensity.

Quality and intensity are two properties present in any odor. The quality of an odor indicates the nature of the smell experience. For instance, if a person describes an odor as flowery or sweet, then the person is describing the quality of the odor. Intensity refers to the strength of the odor. For example, a person may use the word "strong" to describe the intensity of an odor. Odor intensity depends on the odorant concentration in the air.

When an odorous sample is progressively diluted, the odorant concentration decreases. As this occurs, the odor intensity weakens and eventually becomes so low that the detection or recognition of the odor is quite difficult. At some point during dilution, the concentration of the odorant reaches a detection threshold. An odorant concentration below the detection threshold means that the concentration in the air is not detectable by the average human.

SENSITIVE RECEPTORS

A sensitive receptor is a location where human populations, especially children, seniors, and sick persons, are present and where there is a reasonable expectation of continuous human exposure to pollutants. Examples of sensitive receptors include residences, hospitals and schools. It also includes long-term care hospitals, hospices, prisons, and dormitories or similar live-in housing.

Because the proposed project is a planning document that does not include exact locations, sizes, or land use type for any individual projects that will occur within the County under the General Plan, there are no specific sensitive locations identified with respect to the proposed project. As a

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conservative estimate of impacts, sensitive receptors are anticipated to be located directly adjacent to new development.

NATURALLY OCCURRING ASBESTOS

The term asbestos is used to describe a variety of fibrous minerals that, when airborne, can result in serious human health effects.

The EPA Region 9 office is working in areas of California to address concerns about potential effects of naturally occurring asbestos. Naturally occurring asbestos can take the form of long, thin, separable fibers. Natural weathering or human disturbance can break naturally occurring asbestos down to microscopic fibers, easily suspended in air. There is no health threat if asbestos fibers in soil remain undisturbed and do not become airborne. When inhaled, these thin fibers irritate tissues and resist the body's natural defenses. Asbestos, a known carcinogen, causes cancers of the lung and the lining of internal organs, as well as asbestosis and other diseases that inhibit lung function.

Asbestiform minerals occur naturally in rock and soil as the result of natural geologic processes, often in veins near earthquake faults in the coastal ranges and the foothills of the Sierra Nevada mountains. Sometimes the metamorphic conditions are right for the formation of chrysotile asbestos or tremolite-actinolite asbestos in bodies of ultramafic rock or along their boundaries. Asbestos is much less likely to be associated with non-ultramafic rock types.

Ultramafic rocks are igneous rocks that form in high temperature environments well below the surface of the earth. By the time they are exposed at the surface by uplift and erosion, ultramafic rocks may be partially to completely altered to serpentinite, a type of metamorphic rock. Asbestos is the generic term for the naturally occurring fibrous (asbestiform) varieties of six silicate minerals, including chrysotile which is found in serpentinite and is the most common in California.

Serpentinite is an ultramafic rock that has a greasy or waxy appearance and may be dark to light green, brown, yellow or white. Small amounts of chrysotile asbestos are common in serpentinite. Other forms of asbestos such as amphibole asbestos also occur with serpentinite, but such occurrences are less common than chrysotile asbestos.

According to United States Geological Survey, naturally occurring asbestos is mapped in Glenn County in two locations: the Salt Spring and the Sulfur Spring, both of which are located in the Salt Valley.

3.3.2 REGULATORY SETTING

FEDERAL

Clean Air Act

The Federal Clean Air Act (FCAA) was first signed into law in 1970. In 1977, and again in 1990, the law was substantially amended. The FCAA is the foundation for a national air pollution control effort, and it is composed of the following basic elements: NAAQS for criteria air pollutants, hazardous air pollutant standards, state attainment plans, motor vehicle emissions standards, stationary source emissions standards and permits, acid rain control measures, stratospheric ozone protection, and enforcement provisions.

The U.S. EPA is responsible for administering the FCAA. The FCAA requires the USEPA to set NAAQS for several problem air pollutants based on human health and welfare criteria. Two types of NAAQS were established: primary standards, which protect public health (with an adequate margin of safety, including for sensitive populations such as children, the elderly, and individuals suffering from respiratory diseases), and secondary standards, which protect the public welfare from non-health-related adverse effects such as visibility reduction.

NAAQS standards define clean air and represent the maximum amount of pollution that can be present in outdoor air without any harmful effects on people and the environment. Existing violations of the ozone and PM_{2.5} ambient air quality standards indicate that certain individuals exposed to these pollutants may experience certain health effects, including increased incidence of cardiovascular and respiratory ailments.

NAAQS standards have been designed to accurately reflect the latest scientific knowledge and are reviewed every five years by a Clean Air Scientific Advisory Committee (CASAC), consisting of seven members appointed by the USEPA administrator. Reviewing NAAQS is a lengthy undertaking and includes the following major phases: Planning, Integrated Science Assessment (ISA), Risk/Exposure Assessment (REA), Policy Assessment (PA), and Rulemaking. The process starts with a comprehensive review of the relevant scientific literature. The literature is summarized and conclusions are presented in the ISA. Based on the ISA, USEPA staff perform a risk and exposure assessment, which is summarized in the REA document. The third document, the PA, integrates the findings and conclusions of the ISA and REA into a policy context, and provides lines of reasoning that could be used to support retention or revision of the existing NAAQS, as well as several alternative standards that could be supported by the review findings. Each of these three documents is released for public comment and public peer review by the CASAC. Members of CASAC are appointed by the USEPA Administrator for their expertise in one or more of the subject areas covered in the ISA. The committee's role is to peer review the NAAQS documents, ensure that they reflect the thinking of the scientific community, and advise the Administrator on the technical and scientific aspects of standard setting. Each document goes through two to three drafts before CASAC deems it to be final.

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Although there is some variability among the health effects of the NAAQS pollutants, each has been linked to multiple adverse health effects including, among others, premature death, hospitalizations and emergency department visits for exacerbated chronic disease, and increased symptoms such as coughing and wheezing. NAAQS standards were last revised for each of the six criteria pollutants as listed below, with detail on what aspects of NAAQS changed during the most recent update:

- Ozone: On October 1, 2015, the U.S. EPA lowered the national eight-hour standard from 0.075 ppm to 0.070 ppm, providing for a more stringent standard consistent with the current California state standard.
- CO: In 2011, the primary standards were retained from the original 1971 level, without revision. The secondary standards were revoked in 1985.
- NO₂: The national NO₂ standard was most recently revised in 2010 following an exhaustive review of new literature pointed to evidence for adverse effects in asthmatics at lower NO₂ concentrations than the existing national standard.
- SO₂: On June 2, 2010, a new 1-hour SO₂ standard was established and the existing 24-hour and annual primary standards were revoked. To attain the 1-hour national standard, the 3-year average of the annual 99th percentile of the 1-hour daily maximum concentrations at each site must not exceed 75 ppb.
- PM: the national annual average PM_{2.5} standard was most recently revised in 2012 following an exhaustive review of new literature pointed to evidence for increased risk of premature mortality at lower PM_{2.5} concentrations than the existing standard.
- Lead: The national standard for lead was revised on October 15, 2008 to a rolling 3-month average. In 2016, the primary and secondary standards were retained.

The law recognizes the importance for each state to locally carry out the requirements of the FCAA, as special consideration of local industries, geography, housing patterns, etc. are needed to have full comprehension of the local pollution control problems. As a result, the USEPA requires each state to develop a State Implementation Plan (SIP) that explains how each state will implement the FCAA within their jurisdiction. A SIP is a collection of rules and regulations that a particular state will implement to control air quality within their jurisdiction. The CARB is the state agency that is responsible for preparing and implementing the California SIP.

Transportation Conformity

Transportation conformity requirements were added to the FCAA in the 1990 amendments, and the EPA adopted implementing regulations in 1997. See §176 of the FCAA (42 U.S.C. §7506) and 40 CFR Part 93, Subpart A. Transportation conformity serves much the same purpose as general conformity: it ensures that transportation plans, transportation improvement programs, and projects that are developed, funded, or approved by the United States Department of Transportation or that are recipients of funds under the Federal Transit Act or from the Federal Highway Administration (FHWA), conform to the SIP as approved or promulgated by EPA.

Currently, transportation conformity applies in nonattainment areas and maintenance areas (maintenance areas are those areas that were in nonattainment that have been redesignated to attainment, under the FCCA). Under transportation conformity, a determination of conformity with the applicable SIP must be made by the agency responsible for the project, such as the Metropolitan Planning Organization, the Council of Governments, or a federal agency. The agency making the determination is also responsible for all the requirements relating to public participation. Generally, a project will be considered in conformance if it is in the transportation improvement plan and the transportation improvement plan is incorporated in the SIP. If an action is covered under transportation conformity, it does not need to be separately evaluated under general conformity.

Transportation Control Measures

One particular aspect of the SIP development process is the consideration of potential control measures as a part of making progress towards clean air goals. While most SIP control measures are aimed at reducing emissions from stationary sources, some are typically also created to address mobile or transportation sources. These are known as transportation control measures (TCMs). TCM strategies are designed to reduce vehicle miles traveled and trips, or vehicle idling and associated air pollution. These goals are achieved by developing attractive and convenient alternatives to single-occupant vehicle use. Examples of TCMs include ridesharing programs, transportation infrastructure improvements such as adding bicycle and carpool lanes, and expansion of public transit.

U.S. Environmental Protection Agency

At the Federal level, EPA has been charged with implementing national air quality programs. EPA's air quality mandates are drawn primarily from the Federal Clean Air Act (FCAA), which was enacted in 1963. The FCAA was amended in 1970, 1977, and 1990.

The FCAA required EPA to establish primary and secondary national ambient air quality standards (NAAQS). The FCAA also required each state to prepare an air quality control plan referred to as a State Implementation Plan (SIP). The Federal Clean Air Act Amendments of 1990 (FCAAA) added requirements for states with nonattainment areas to revise their SIPs to incorporate additional control measures to reduce air pollution. The SIP is periodically modified to reflect the latest emissions inventories, planning documents, and rules and regulations of the air basins as reported by their jurisdictional agencies. EPA has responsibility to review all state SIPs to determine conformity to the mandates of the FCAAA and determine if implementation will achieve air quality goals. If the EPA determines a SIP to be inadequate, a Federal Implementation Plan (FIP) may be prepared for the nonattainment area that imposes additional control measures. Failure to submit an approvable SIP or to implement the plan within the mandated timeframe may result in sanctions being applied to transportation funding and stationary air pollution sources in the air basin.

Federal Hazardous Air Pollutant Program

Title III of the FCAA requires the EPA to promulgate national emissions standards for hazardous air pollutants (NESHAPs). The NESHAP may differ for major sources than for area sources of HAPs (major sources are defined as stationary sources with potential to emit more than 10 tons per year [TPY] of

any HAP or more than 25 TPY of any combination of HAPs; all other sources are considered area sources). The emissions standards are to be promulgated in two phases. In the first phase (1992–2000), the EPA developed technology-based emission standards designed to produce the maximum emission reduction achievable. These standards are generally referred to as requiring maximum available control technology (MACT). These Federal rules are also commonly referred to as MACT standards, because they reflect the Maximum Achievable Control Technology. For area sources, the standards may be different, based on generally available control technology. In the second phase (2001–2008), the EPA is required to promulgate health risk–based emissions standards were deemed necessary to address risks remaining after implementation of the technology-based NESHAP standards. The FCAA required the EPA to promulgate vehicle or fuel standards containing reasonable requirements that control toxic emissions, at a minimum to benzene and formaldehyde. Performance criteria were established to limit mobile-source emissions of toxics, including benzene, formaldehyde, and 1,3-butadiene. In addition, §219 required the use of reformulated gasoline in selected U.S. cities (those with the most severe ozone nonattainment conditions) to further reduce mobile-source emissions.

Energy Policy and Conservation Act

The Energy Policy and Conservation Act of 1975 sought to ensure that all vehicles sold in the U.S. would meet certain fuel economy goals. Through this Act, Congress established the first fuel economy standards for on-road motor vehicles in the United States. Pursuant to the Act, the National Highway Traffic and Safety Administration, which is part of the U.S. Department of Transportation (USDOT), 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 mpg. Since 1996, the fuel economy standard for new light trucks (gross vehicle weight of 8,500 pounds or less) has been 20.7 mpg. 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 determined on the basis of each manufacturer’s average fuel economy for the portion of its vehicles produced for sale in the U.S. The Corporate Average Fuel Economy (CAFE) program, which is administered by the EPA, was created to determine vehicle manufacturers’ compliance with the fuel economy standards. The EPA calculates a CAFE value for each manufacturer based on area and highway fuel economy test results and vehicle sales. Based on the information generated under the CAFE program, the USDOT is authorized to assess penalties for noncompliance.

Energy Policy Act of 1992 (EPAct)

The Energy Policy Act of 1992 (EPAct) was passed to reduce the country’s dependence on foreign petroleum and improve air quality. EPAct includes several parts intended to build an inventory of alternative fuel vehicles (AFVs) in large, centrally fueled fleets in metropolitan areas. EPAct requires certain federal, state, and local government and private fleets to purchase a percentage of light duty AFVs capable of running on alternative fuels each year. In addition, financial incentives are included in EPAct. Federal tax deductions will be allowed for businesses and individuals to cover the

incremental cost of AFVs. States are also required by the act to consider a variety of incentive programs to help promote AFVs.

Energy Policy Act of 2005

The Energy Policy Act of 2005 was signed into law on August 8, 2005. Generally, the act provides for renewed and expanded tax credits for electricity generated by qualified energy sources, such as landfill gas; provides bond financing, tax incentives, grants, and loan guarantees for a clean renewable energy and rural community electrification; and establishes a federal purchase requirement for renewable energy.

Intermodal Surface Transportation Efficiency Act (ISTEA)

ISTEA (49 U.S.C. § 101 et seq.) promoted the development of intermodal transportation systems to maximize mobility as well as address national and local interests in air quality and energy. ISTEA contained factors that metropolitan planning organizations (MPOs), such as SACOG, were to address in developing transportation plans and programs, including some energy-related factors. To meet the ISTEA requirements, MPOs adopted explicit policies defining the social, economic, energy, and environmental values that were to guide transportation decisions in that metropolitan area. The planning process was then to address these policies. Another requirement was to consider the consistency of transportation planning with federal, state, and local energy goals. Through this requirement, energy consumption was expected to become a criterion, along with cost and other values that determine the best transportation solution.

The Safe, Accountable, flexible, Efficient Transportation Equity Act: A legacy for Users (SAFETEA-LU)

SAFETEA-LU (23 U.S.C. § 507), renewed the Transportation Equity Act for the 21st Century (TEA-21) of 1998 (23 U.S.C.; 49 U.S.C.) through FY 2009. SAFETEA-LU authorized the federal surface transportation programs for highways, highway safety, and transit. SAFETEA-LU addressed the many challenges facing our transportation system today—such as improving safety, reducing traffic congestion, improving efficiency in freight movement, increasing intermodal connectivity, and protecting the environment—as well as laying the groundwork for addressing future challenges. SAFETEA-LU promoted more efficient and effective federal surface transportation programs by focusing on transportation issues of national significance, while giving state and local transportation decision makers more flexibility to solve transportation problems in their communities. SAFETEA-LU was extended in March of 2010 for nine months, and expired in December of the same year. In June 2012, SAFETEA-LU was replaced by the Moving Ahead for Progress in the 21st Century Act (MAP-21), which has taken effect on October 1, 2012.

U.S Federal Climate Change Policy

According to the EPA, “the United States government has established a comprehensive policy to address climate change” that includes slowing the growth of emissions; strengthening science, technology, and institutions; and enhancing international cooperation. To implement this policy, “the Federal government is using voluntary and incentive-based programs to reduce emissions and

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has established programs to promote climate technology and science.” The federal government’s goal is to reduce the greenhouse gas (GHG) intensity (a measurement of GHG emissions per unit of economic activity) of the American economy by 18 percent over the 10-year period from 2002 to 2012. In addition, the EPA administers multiple programs that encourage voluntary GHG reductions, including “ENERGY STAR”, “Climate Leaders”, and Methane Voluntary Programs. However, as of this writing, there are no adopted federal plans, policies, regulations, or laws directly regulating GHG emissions.

STATE

California Clean Air Act

The CCAA was first signed into law in 1988. The CCAA provides a comprehensive framework for air quality planning and regulation, and spells out, in statute, the state’s air quality goals, planning and regulatory strategies, and performance. The CARB is the agency responsible for administering the CCAA. The CARB established ambient air quality standards pursuant to the California Health and Safety Code (CH&SC) [§39606(b)], which are similar to the federal standards.

California Air Resources Board

CARB is the agency responsible for coordination and oversight of State and local air pollution control programs in California and for implementing the California Clean Air Act (CCAA), which was adopted in 1988. The CCAA requires that all air districts in the State endeavor to achieve and maintain the CAAQS by the earliest practical date. The act specifies that districts should focus particular attention on reducing the emissions from transportation and area-wide emission sources, and provides districts with the authority to regulate indirect sources.

California Air Quality Standards

Although NAAQS are determined by the USEPA, states have the ability to set standards that are more stringent than the federal standards. As such, California established more stringent ambient air quality standards. Federal and state ambient air quality standards have been established for ozone, carbon monoxide, nitrogen dioxide, sulfur dioxide, suspended particulates (PM₁₀) and lead. In addition, California has created standards for pollutants that are not covered by federal standards. Although there is some variability among the health effects of the CAAQS pollutants, each has been linked to multiple adverse health effects including, among others, premature death, hospitalizations and emergency department visits for exacerbated chronic disease, and increased symptoms such as coughing and wheezing. The existing state and federal primary standards for major pollutants are shown in Table 3.3-1.

Air quality standard setting in California commences with a critical review of all relevant peer reviewed scientific literature. The Office of Environmental Health Hazard Assessment (OEHHA) uses the review of health literature to develop a recommendation for the standard. The recommendation can be for no change, or can recommend a new standard. The review, including the OEHHA recommendation, is summarized in a document called the draft Initial Statement of Reasons (ISOR), which is released for comment by the public, and also for public peer review by the

Air Quality Advisory Committee (AQAC). AQAC members are appointed by the President of the University of California for their expertise in the range of subjects covered in the ISOR, including health, exposure, air quality monitoring, atmospheric chemistry and physics, and effects on plants, trees, materials, and ecosystems. The Committee provides written comments on the draft ISOR. The ARB staff next revises the ISOR based on comments from AQAC and the public. The revised ISOR is then released for a 45-day public comment period prior to consideration by the Board at a regularly scheduled Board hearing.

In June of 2002, the CARB adopted revisions to the PM₁₀ standard and established a new PM_{2.5} annual standard. The new standards became effective in June 2003. Subsequently, staff reviewed the published scientific literature on ground-level ozone and nitrogen dioxide and the CARB adopted revisions to the standards for these two pollutants. Revised standards for ozone and nitrogen dioxide went into effect on May 17, 2006 and March 20, 2008, respectively. These revisions reflect the most recent changes to the CAAQS.

CARB Mobile-Source Regulation

The State of California is responsible for controlling emissions from the operation of motor vehicles in the state. Rather than mandating the use of specific technology or the reliance on a specific fuel, the CARB's motor vehicle standards specify the allowable grams of pollution per mile driven. In other words, the regulations focus on the reductions needed rather than on the manner in which they are achieved. Towards this end, the CARB has adopted regulations which required auto manufacturers to phase in less polluting vehicles.

CARB Air Quality and Land Use Handbook

The CARB's *Air Quality and Land Use Handbook: A Community Health Perspective* addresses the importance of considering health risk issues when siting sensitive land uses, including residential development, in the vicinity of intensive air pollutant emission sources including freeways or high-traffic roads, distribution centers, ports, petroleum refineries, chrome plating operations, dry cleaners, and gasoline dispensing facilities. The CARB Handbook draws upon studies evaluating the health effects of traffic traveling on major interstate highways in metropolitan California centers within Los Angeles (Interstate [I] 405 and I-710), the San Francisco Bay, and San Diego areas. The recommendations identified by the CARB, including siting residential uses a minimum distance of 500 feet from freeways or other high-traffic roadways, are consistent with those adopted by the State of California for location of new schools. Specifically, the CARB Handbook recommends, "Avoid siting new sensitive land uses within 500 feet of a freeway, urban roads with 100,000 vehicles/day, or rural roads with 50,000 vehicles/day" (CARB, 2005).

Tanner Air Toxics Act

California regulates TACs primarily through the Tanner Air Toxics Act (AB 1807) and the Air Toxics Hot Spots Information and Assessment Act of 1987 (AB 2588). The Tanner Act sets forth a formal procedure for the CARB to designate substances as TACs. This includes research, public participation, and scientific peer review before the CARB can designate a substance as a TAC. To date, the CARB has identified more than 21 TACs and has adopted EPA's list of HAPs as TACs. Most recently, diesel

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PM was added to the CARB list of TACs. Once a TAC is identified, the CARB then adopts an Airborne Toxicity Control Measure (ATCM) for sources that emit that particular TAC. If there is a safe threshold for a substance at which there is no toxic effect, the control measure must reduce exposure below that threshold. If there is no safe threshold, the measure must incorporate Best Available Control Technology (BACT) to minimize emissions.

The AB 2588 requires that existing facilities that emit toxic substances above a specified level prepare a toxic-emission inventory, prepare a risk assessment if emissions are significant, notify the public of significant risk levels, and prepare and implement risk reduction measures. The CARB has adopted diesel exhaust control measures and more stringent emission standards for various on-road mobile sources of emissions, including transit buses and off-road diesel equipment (e.g., tractors, generators). In February 2000, the CARB adopted a new public-transit bus-fleet rule and emission standards for new urban buses. These rules and standards provide for (1) more stringent emission standards for some new urban bus engines, beginning with 2002 model year engines; (2) zero-emission bus demonstration and purchase requirements applicable to transit agencies; and (3) reporting requirements under which transit agencies must demonstrate compliance with the urban transit bus fleet rule. Other recent milestones include the low-sulfur diesel-fuel requirement, and tighter emission standards for heavy-duty diesel trucks (2007) and off-road diesel equipment (2011) nationwide.

Transport of Pollutants

The California Clean Air Act, Section 39610 (a), directs the CARB to “identify each district in which transported air pollutants from upwind areas outside the district cause or contribute to a violation of the ozone standard and to identify the district of origin of transported pollutants.” The information regarding the transport of air pollutants from one basin to another was to be quantified to assist interrelated basins in the preparation of plans for the attainment of State ambient air quality standards. Numerous studies conducted by the CARB have identified air basins that are impacted by pollutants transported from other air basins (as of 1993).

LOCAL

Northern Sacramento Valley Air Quality Attainment Plan

As specified in the California Clean Air Act of 1988 (CCAA), Chapters 1568-1588 it is the responsibility of each air pollution control district and air quality management district within the State to attain and maintain California’s ambient air quality standards. The CCAA requires that an Attainment Plan (Plan) be developed by all non-attainment districts for ozone (O₃), carbon monoxide (CO), sulfur oxides (SO_x), and nitrogen oxides (NO_x) that are either receptors or contributors of transported air pollutants. The purpose of the Plan is to comply with the requirements of the CCAA as implemented through the California Health and Safety Code. Districts are required to update the Plan every three years.

The Northern Sacramento Valley (NSV) is classified as a moderate nonattainment area for State 1-hour ozone standard. The NSV comprises the northern portion of the Sacramento Valley Air Basin

and includes the counties of Butte, Colusa, Glenn, Tehama, Shasta and the northern portions of Yuba & Sutter. The NSV is generally rural in nature, with a low population density and a predominately agricultural economy. Its industrial base is dominated by agricultural/construction support operations, although small scale manufacturing is also found throughout the region.

Health and Safety Code section 41503(b) requires that control measures for the same emission sources be uniform throughout the air basin. To meet this requirement the NSV has coordinated the development of the Plan and established specific rule adoption protocols through the Technical Advisory Committee (TAC) of the Sacramento Basinwide Control Council.

The Plan was initially submitted to CARB on September 16, 1991. CARB held a public hearing on the Plan on July 9, 1992 and found the Plan to conform to several elements of the CCAA, but also identified several deficiencies. CARB gave conditional approval of the Plan to allow time for completing plan modifications after consultation with the districts. The Plan includes the all feasible control measures applicable to the NSV, emission accounting and ranking of measures by cost-effectiveness, and provisions to develop area and indirect source control measures. The Plan did not fully satisfy the CCAA requirement for permitting rules and several districts did not make the cost-effectiveness findings.

After evaluating the progress achieved with the 1991 Plan, the NSV shifted the primary emphasis from the adoption of stationary source control measures to motor vehicle emission reductions. Because mobile sources are the single largest contributor to ozone pollution, the 1994 Plan concentrated on reducing these emissions through the implementation of Indirect Source Review (ISR) programs and Transportation Control Measures (TCMs). Several stationary source measures previously considered in the 1991 Plan were deemed not applicable or not offering cost-effective emission control and were removed from the list.

The 1997 triennial update to the Plan addressed the progress made implementing the 1994 Plan and proposed modifications to the strategies necessary to attain the State ozone standard at the earliest practicable date. Like the 1994 Plan, the 1997 Plan focused on the adoption and implementation of control measures for stationary sources, mobile sources, area wide sources, indirect sources and addressed public education programs. The Plan also addressed the transport of pollutants from the upwind metropolitan areas to the NSV. With the State Implementation Plan (SIP) as the state's established control strategy for the future, the CARB found that the NSV districts would not be required to prepare a comprehensive plan update for 1997. Instead, districts were directed to focus on implementing their existing control strategies and SIP commitments.

As with the 1997 Plan, the 2000 and 2003 Plan were focused on implementing existing control strategies and SIP commitments. In the 2000, 2003 and 2006 Plan updates, districts endeavored to incorporate three general principles to guide them in their planning process: (1) Air quality modeling to identify the reductions needed and to design effective emission reduction strategies; (2) Comprehensive emission reduction programs that take advantage of current emission control technologies; and (3) Address the impacts of pollutant transport in the attainment demonstration.

Glenn County Air Pollution Control District

The Glenn County Air Pollution Control District (APCD) is the local agency with primary responsibility for compliance with both the federal and state standards and for ensuring that air quality conditions are maintained. They do this through a comprehensive program of planning, regulation, enforcement, technical innovation, and promotion of the understanding of air quality issues.

Activities of the Glenn County APCD include the preparation of plans for the attainment of ambient air quality standards, adoption and enforcement of rules and regulations concerning sources of air pollution, issuance of permits for stationary sources of air pollution, inspection of stationary sources of air pollution and response to citizen complaints, monitoring of ambient air quality and meteorological conditions, and implementation of programs and regulations required by the FCAA and CCAA.

3.3.3 IMPACTS AND MITIGATION MEASURES

THRESHOLDS OF SIGNIFICANCE

Consistent with Appendix G of the CEQA Guidelines, the proposed General Plan will have a significant impact on the environment associated with air quality if it will:

- Conflict with or obstruct implementation of the applicable air quality plan;
- Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is in non-attainment under an applicable federal or state ambient air quality standard;
- Expose sensitive receptors to substantial pollutant concentrations; and/or
- Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people.

METHODOLOGY

The analysis presented below was completed to include a qualitative approach to address consistency with current air quality plan control measures. The qualitative analysis discusses the proposed General Plan's consistency with the Regulations of the Air Pollution Control District of Glenn County, and the proposed General Plan's VMT projections. The VMT analysis is described in greater detail in Chapter 3.14, Transportation and Circulation.

IMPACTS AND MITIGATION MEASURES

Impact 3.3-1: General Plan implementation may conflict with or obstruct implementation of the applicable air quality plan, or result in a cumulatively considerable net increase of criteria pollutants (Significant and Unavoidable)

CEQA requires lead agencies to determine whether a project is consistent with all applicable air quality plans. Under the existing state and federal environmental regulatory structure, the federal government's Environmental Protection Agency is granted primary authority to establish health-based ambient air quality standards and specific technology and emission requirements for sources of air pollution, regulate selected sources of air pollution, and mandate that states comply with these requirements. The federal government has the authority to withhold transportation funds from the state if certain requirements are not met. Under the state of California regulatory structure, the state's California Air Resources Board maintains primary authority to regulate mobile sources of air pollution (e.g., establish vehicle and engine emission standards), and possess regulatory oversight authority over local and regional air pollution control agencies. Local and regional agencies maintain primary authority to regulate stationary sources of air pollution (e.g., permitting industry activities and regulating open burning).

As described previously, Glenn County has a State designation of Nonattainment for PM10, and is either Unclassified or Attainment for all other criteria pollutants. The County has a national designation of either attainment or unclassified for the national standards. The Glenn County APCD

3.3 AIR QUALITY

does not provide criteria pollutant thresholds for General Plans (such as the proposed Project). As such, there is no programmatic threshold of significance established for criteria pollutants for which to compare the proposed General Plan.

This EIR acknowledges that the proposed General Plan will allow new residential and non-residential growth, as described in detail in Chapter 2.0 (Project Description). This new growth will undoubtedly result in increases in the emissions of criteria pollutants, most notably from mobile-source and area-source emissions increases associated with increased growth and development in Glenn County. Additionally, the implementation of individual projects within the General Plan may have the potential to conflict with APCD requirements for criteria pollutants at the project-level.

The proposed General Plan includes policies and actions that are specifically aimed at improving air quality throughout the county and region. These policies and actions (provided below), limit impacts to air quality by reducing the number and length of vehicle trips, supporting green and sustainable building development, promoting the use of renewable energy, and encouraging the conservation of resources.

The policies and actions included throughout the proposed General Plan cover the full breadth of air quality issues. If approval of the proposed General Plan would cause the disruption, delay, or otherwise hinder the implementation of any air quality plan control measure, it may be inconsistent with the applicable air quality plans. The proposed General Plan does not cause the disruption, delay, or otherwise hinder the implementation of any quality plan or control measure; therefore, it is consistent with the applicable air quality plans. All future development and infrastructure projects within the Planning Area would be subject to the General Plan goals, policies, and actions include below, which were adopted to reduce emissions and air quality impacts. However, the proposed General Plan includes higher levels and rates of growth than those that would be allowed under the existing General Plan. As such, total emissions levels associated with Project buildout would increase, which may indirectly hinder the efforts to reduce total emissions of criteria pollutants.

The Planning Area includes a variety of existing rural and agricultural uses and one of the most heavily-travelled highway corridors in the region (I-5). The proposed General Plan includes policies and land uses that promote development patterns that emphasizes alternative transportation access and multi-modal opportunities throughout the Planning Area.

Implementation of the proposed General Plan, which is consistent with all federal and state guidelines, and would be consistent with the applicable air quality plans, but would still lead to overall increases in emissions of criteria pollutants, given the total growth projected upon full buildout of the proposed General Plan.

Additionally, as described in Chapter 3.14 (Transportation and Circulation) of this DEIR, the proposed General Plan would likely result in decreased per capita VMT, however, total emissions levels associated with Project buildout would increase, which may indirectly hinder the efforts to reduce total emissions of criteria pollutants.

As described previously, the policies and actions included throughout the proposed General Plan cover the full breadth of air quality issues and promote air quality and vehicle trip reductions throughout the Planning Area. However, even with implementation of the General Plan policies and actions aimed to reduce criteria pollutant emissions, since the proposed General Plan would allow for new development that would increase overall development and VMT, this impact is considered **significant and unavoidable**.

GENERAL PLAN POLICIES AND ACTIONS THAT MINIMIZE POTENTIAL IMPACTS

LAND USE ELEMENT POLICIES

LU 4-2: *Require proposed commercial development to be consistent with the following:*

- a. *The area can be readily hooked up to public water facilities.*
- b. *The community utility systems can accommodate the added demand without additional costs to the existing community.*
- c. *The area has access to a major transportation route.*
- d. *The impact of the development on local streets, including traffic congestion and noise, can be mitigated to acceptable levels.*
- e. *Adequate fire protection measures are provided.*

LU 6-4: *Participate in countywide, regional and other multi-agency planning efforts related to agriculture, water supply, tourism, open space, air quality, housing, green infrastructure, recreation, habitat conservation, energy, emergency preparedness and flood protection to ensure that the needs of the County's residents and businesses are not overlooked.*

CIRCULATION ELEMENT POLICIES

CIR 2-1: *Implement best practices to improve the pedestrian and bicycle environment, including but not limited to separated bike and pedestrian pathways, enhanced safety features, improved signage, and landscaping and lighting features to improve safety and comfort, where feasible and appropriate.*

CIR 2-2: *Coordinate pedestrian and bicycle facility improvements and pavement improvement projects (e.g., repaving and restriping), to the greatest extent feasible and while considering potential secondary effects.*

CIR 2-3: *Ensure that residents have convenient transit service to employment centers, County service centers, other government centers, and regional destinations (i.e., Sacramento International Airport), as funding allows.*

CIR 4-1: *Support land use with increased densities and intensity of trip making near incorporated cities and other small towns in the County, consistent with the Land Use Element, to reduce vehicle miles traveled and promote the use of walking, biking, and transit.*

CIR 4-2: *Encourage employers to provide programs for carpooling/transit/biking/walking subsidies, bicycle facilities, ridesharing, telecommuting, and working at home.*

3.3 AIR QUALITY

CIR 4-3: Monitor the deployment of new transportation technologies and services and develop policies that implement best practices to ensure these technologies and services benefit the public and the multimodal transportation system.

CIR 4-4: Support the creation of electric vehicle charging stations at commercial, government, and other employment and community destinations.

CIR 4-5: Support community education on electric farm vehicle technology and state and federal incentives for purchasing electric farm vehicles.

AGRICULTURAL ELEMENT POLICIES

AG 2-5: Promote best management practices in agricultural operations to reduce emissions, conserve energy and water, promote soil health, and utilize alternative energy sources.

AG 5-10: Promote best management practices in agricultural operations (including animal operations) to reduce emissions, conserve energy and water, and utilize alternative energy sources.

SAFETY ELEMENT POLICIES

SA 4-6: Require compliance with the Glenn County Air Pollution Control District's Hazardous Waste Generator Program.

SA 7-1: Consider potential climate change impacts and adaptive responses in long-range planning and current development decisions.

CONVERSATION AND OPEN SPACE ELEMENT POLICIES

COS 4-1: Require all development projects to comply with the mandatory energy efficiency requirements of the California Green Building Standards Code (CALGreen) and Building and Energy Efficiency Standards.

COS 4-2: As feasible, promote County operation energy efficiency and install as feasible, energy-efficient lighting, appliances, and alternative-energy infrastructure in County facilities during routine maintenance and as upgrades are needed and may provide for cost savings opportunities.

COS 4-3: Promote incentives from local, State, and Federal agencies for improving energy efficiency and expanding renewable energy installations.

COS 4-4: Support and encourage the implementation of innovative and green building best management practices including, but not limited to, sustainable site planning, solar opportunities, LEED certification, and exceeding the most current "green" development standards in the California Code of Regulations (CCR), Title 24, as feasible.

LAND USE ELEMENT ACTIONS

Action LU-3a: Utilize density transitions in order to protect the integrity of existing land use patterns and minimize the impacts on existing uses and residents. It shall be County policy:

1. *To locate lower residential densities adjacent to open space, areas of agricultural use, and existing lower density residential areas;*
2. *To locate higher residential densities in proximity to services, transit, and/or employment activity centers;*
3. *To require buffer lots in new residential developments that abut agricultural parcels.*

CIRCULATION ELEMENT ACTIONS

Action CIR-1c: Where feasible, coordinate pedestrian and bicycle facility improvements with roadway maintenance activities so that they can be implemented in a cost effective manner.

Action CIR-1d: Conduct a Local Roadway Safety Plan with the goal of reducing traffic fatalities and serious injuries on public roads and to support funding for safety improvements. The plan may consider collision history; vehicle, bicycle, and pedestrian volumes; vehicle speeds; and other improvements.

Action CIR-2a: Implement and build on recommendations for pedestrian and bicycle improvements in Hamilton City included in the Glenn County Active Transportation Plan (2019).

Action CIR-2b: Work collaboratively with State and regional agencies, such as Caltrans and the Cities of Willows and Orland, to implement a regional bikeway system that connects the cities, larger unincorporated communities, recreation destinations, and scenic areas in Glenn County.

Action CIR-2c: Pursue funding for construction and maintenance of bikeways and sidewalks, including off-road bikeways, where feasible.

Action CIR-2d: Add planned bicycle and pedestrian facilities in conjunction with road rehabilitation, reconstruction, or re-striping projects whenever feasible.

Action CIR-2e: Partner with Glenn Ride and other regional transit providers to conduct regular service reviews to advance convenient transit service to employment centers, County service centers, other government centers, and regional destinations (i.e., Sacramento International Airport), as funding allows. Also continue to support regional transit initiatives that serve Glenn County, which are already underway.

Action CIR-2f: Enhance transit stops through high quality, well maintained shelters and provide transit timetables.

Action CIR-2g: Consider alternatives to conventional bus systems, such as smaller shuttle buses (micro-transit), on demand transit services, or transportation networking company services that connect residential communities to regional activity centers with greater cost efficiency.

Action CIR-4a: Adopt VMT thresholds and screening criteria for environmental impact analysis. Review and update those guidelines on a regular basis using updated data.

Action CIR-4b: Explore the feasibility of a VMT impact fee program to fund transportation demand management strategies that are proven to reduce VMT.

3.3 AIR QUALITY

Action CIR-4c: Consider requiring new development to incorporate electric vehicle charging in accordance with the California Green Building Standards Code and/or commit to using electric vehicles for a certain percentage of its vehicle fleet. Encourage installation of electric vehicle charging stations at existing development.

Action CIR-4d: Provide assistance to local farmers, through the form of educational materials and informational resources, to various programs that provide funding and technical assistance aimed at replacing diesel and gasoline powered farm equipment with electrical and other renewable energy source farm equipment.

SAFETY ELEMENT ACTIONS

Action SA-7a: Periodically assess and monitor the effects of climate change and the associated levels of risk in order to adapt to changing climate conditions.

Action SA-7b: Collaborate with utility providers to ensure that infrastructure and resource management plans account for anticipated climate change impacts.

CONSERVATION ELEMENT ACTIONS

Action COS-4a: Continue to review development projects to ensure that all new public and private development complies with the California Code of Regulations (CCR), Title 24 and CALGreen standards as well as the energy efficiency standards established by the General Plan and County Code.

Action COS-4b: Provide a conservation page (or similar page) on the County's website that provides links to resource agencies and provides information regarding local and regional conservation and energy upgrade and efficiency programs.

Impact 3.3-2: General Plan implementation would not expose sensitive receptors to substantial pollutant concentrations (Less than Significant)

Local communities' risks from air pollutants may include exposure to TACs and PM_{2.5} concentrations. TACs are a defined set of airborne pollutants that may pose a present or potential hazard to human health and PM_{2.5} can cause a wide range of health effects (e.g., aggravating asthma and bronchitis, causing visits to the hospital for respiratory and cardiovascular systems, and contributing to heart attacks and deaths). Common stationary source types of TAC and PM_{2.5} emissions include gasoline stations, dry cleaners, and other sources, which are subject to Glenn County APCD requirements. The other, often more significant, common source type is on-road motor vehicles on freeways and roads such as trucks and cars, and off-road sources such as construction equipment, ships, and trains. Implementation of the proposed General Plan would have the potential of introducing new sources of TAC and PM_{2.5} emissions within the County as well as siting new sensitive receptors, such as new homes in close proximity to existing sources of TAC and PM_{2.5} emissions.

The proposed General Plan includes policies and actions that would minimize exposure to emissions, TAC, and PM_{2.5} concentrations within the County. These policies and actions are included within

various elements of the proposed General Plan. For example, policies and actions in the Land Use Element call for uses to be compatible with one another.

Individual projects will be required to determine air quality impacts from the construction and operation of their projects. In the event that future individual projects may result in exposure to pollutants including TACs by sensitive receptors, these future projects would be required to implement mitigation measures to reduce the impact to the greatest extent feasible. Therefore, compliance with the applicable policies and programs in the proposed General Plan as well applicable Glenn County APCD rules and regulations, would minimize the potential exposure of sensitive receptors to substantial concentrations of TACs and PM_{2.5} within the Planning Area, and impacts at the program level would be **less than significant**.

GENERAL PLAN POLICIES AND ACTIONS THAT MINIMIZE POTENTIAL IMPACTS

LAND USE ELEMENT POLICIES

LU 6-4: Participate in countywide, regional and other multi-agency planning efforts related to agriculture, water supply, tourism, open space, air quality, housing, green infrastructure, recreation, habitat conservation, energy, emergency preparedness and flood protection to ensure that the needs of the County's residents and businesses are not overlooked.

AGRICULTURAL ELEMENT POLICIES

AG 7-4: All applications for new confined animal facilities shall be submitted to the Glenn County Planning and Community Development Services Agency. Each application for a new or expanded confined animal facility that requires a Minor Use Permit or a Conditional Use Permit shall include a technical report. Copies of the technical report shall be distributed to the Glenn County Health and Human Services Agency, Environmental Health Department; and the Glenn County Air Pollution Control District. The technical report shall include the following components:

- A. General Site Information*
- B. Geotechnical Report*
- C. Drainage Analysis*
- D. Groundwater Evaluation*
- E. Nutrient Management Plan*
- F. Dead Animal Management Plan*
- G. Pest and Vector Control Plan*
- H. Dust Control Plan*
- I. Odor Control Plan*

3.3 AIR QUALITY

J. Traffic Analysis

K. Biological Resources Survey

L. Cultural Resources Evaluation

M. Light and Glare Control Plan

AG 8-7: To minimize the public nuisances caused by odors, dust, flies, vectors, and excessive light and glare, all applications for new confined animal facilities and expansions of confined animal facilities that require a Minor Use Permit or Conditional Use Permit shall include an Odor Control Plan; a Dust Control Plan; a Dead Animal Management Plan, a Pest and Vector Control Plan; and a Light and Glare Control Plan.

SAFETY ELEMENT POLICIES

SA 4-1: Require businesses and agricultural operations to comply with all applicable local, state and federal regulations regarding the use, transport, storage and disposal of hazardous waste and hazardous materials.

SA 4-2: Utilize the development review process to reduce the risk of community exposure to hazardous materials.

SA 4-3: Encourage residents and businesses to minimize the use of toxic materials and products including the application of pesticides, and support education programs which increase the public awareness of the proper disposal of hazardous wastes in order to protect health, and resources such as groundwater quality.

SA 4-4: Require hazardous waste generated within the county to be disposed of in a safe manner, consistent with all applicable local, State, and Federal laws.

SA 4-5: Require hazardous materials to be stored in a safe manner, consistent with all applicable local, State, and Federal laws.

SA 4-6: Require compliance with the Glenn County Air Pollution Control District's Hazardous Waste Generator Program.

SA 4-7: Agricultural pesticide operations shall not occur when wind speed is in excess of 10 miles per hour (mph) or in meteorological conditions where inversion occurs. Generally, wind speeds of 3 to 7 mph are preferable. Pesticide manufacturers may impose further restrictions or requirements in regard to wind speed. In all cases, the label is the law. Contact the local County Agricultural Commissioner for specific requirements or conditions for the county in which pesticide operations are expected to occur.

SAFETY ELEMENT ACTIONS

Action SA-4a: Coordinate with the Glenn County Air Pollution Control District as the Certified Unified Program Agency (CUPA) to ensure that businesses that handle hazardous materials prepare and file

a Hazardous Materials Management Plan (HMMP), and Hazardous Materials Inventory Statement (HMIS). The HMMP and HMIS shall consist of general business information, basic information on the location, type, quantity, and health risks of hazardous materials, and emergency response and training plans.

Action SA-4b: Provide educational opportunities for generators of small quantity, household and agriculture waste products regarding their responsibilities for source reduction and proper and safe hazardous waste management and disposal.

Action SA-4c: Provide information about drop-off programs for the local disposal of household hazardous waste offered Glenn County. The availability of the programs should be widely publicized throughout the community.

Action SA-4d: The County will refer all permits for new projects or major additions to existing uses located on sites identified by the State as having or containing likely hazardous substances or materials to the Glenn County Air Pollution Control District to ensure compliance with applicable State and local regulations. If warranted, identify and require measures to ensure the exposure to hazardous materials from historical uses has been mitigated to acceptable levels consistent with EPA and/or DTSC standards.

Action SA-4e: Continue to work cooperatively with the Fire Districts and the Glenn County Air Pollution Control District to train local personnel in the specialized identification, handling and cleanup procedures that are required for radioactive, toxic, and hazardous substance spills.

Impact 3.3-3: General Plan implementation would not result in other emissions (such as those leading to odors adversely affecting a substantial number of people) (Less than Significant)

ODORS

Objectionable odors can be generated from certain types of commercial and/or industrial land uses. Common sources of odors include wastewater treatment plants, landfills, composting facilities, refineries, and chemical plants. In general, residential land uses are not associated with odor generation, but they do serve as sensitive receptors. Odors rarely have direct health impacts, but they can be very unpleasant and can lead to anger and concern over possible health effects among the public.

The proposed General Plan does not propose any specific development projects, but could result in additional development that may trigger the need for public and quasi-public facilities that could include expanded wastewater treatment facilities, and other potential odor sources. Similarly, lands designated for Industrial uses could include new or expanded uses that could result in odors, including chemical manufacturing, materials manufacturing, food and beverage processing, and other uses that may involve odors. Similarly, existing agricultural uses may include on-site processing or confined animal facilities that may result in odors. Individual projects that have the potential to generate significant objectionable odors would be required to undergo individual CEQA review.

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The Glenn County APCD responds to complaints about odors, dust or chemical air pollutants emitted by industrial plants, refineries, neighborhood businesses, gas station nozzles, idling trucks, locomotives and buses. It also processes complaints about smoke from agricultural fires, controlled burns, non-cooking backyard fires and outdoor trash burning.

With respect to other emissions, future development under the proposed General Plan would be required to comply with APCD, SIP, and CARB, regulations, Title 24 energy efficiency standards, and the proposed General Plan policies and actions.

The proposed General Plan included policies and actions that support compatible land uses and does not propose any development that includes potential source of objectionable odors. Individual projects that have the potential to generate significant objectionable odors would be required to undergo individual project level environmental review. In addition, the General Plan policies and actions listed below would further minimize the potential for other emissions (such as odors) to adversely affect a substantial number of people. Therefore, implementation of the proposed General Plan would have a **less than significant** impact relative to this topic.

GENERAL PLAN POLICIES AND ACTIONS THAT MINIMIZE POTENTIAL IMPACTS

LAND USE ELEMENT POLICIES

LU 6-4: Participate in countywide, regional and other multi-agency planning efforts related to agriculture, water supply, tourism, open space, air quality, housing, green infrastructure, recreation, habitat conservation, energy, emergency preparedness and flood protection to ensure that the needs of the County's residents and businesses are not overlooked.

AGRICULTURAL ELEMENT POLICIES

AG 7-4: All applications for new confined animal facilities shall be submitted to the Glenn County Planning and Community Development Services Agency. Each application for a new or expanded confined animal facility that requires a Minor Use Permit or a Conditional Use Permit shall include a technical report. Copies of the technical report shall be distributed to the Glenn County Health and Human Services Agency, Environmental Health Department; and the Glenn County Air Pollution Control District. The technical report shall include the following components:

- A. General Site Information*
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- C. Drainage Analysis*
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- E. Nutrient Management Plan*
- F. Dead Animal Management Plan*
- G. Pest and Vector Control Plan*

H. Dust Control Plan

I. Odor Control Plan

J. Traffic Analysis

K. Biological Resources Survey

L. Cultural Resources Evaluation

M. Light and Glare Control Plan

AG 8-7: To minimize the public nuisances caused by odors, dust, flies, vectors, and excessive light and glare, all applications for new confined animal facilities and expansions of confined animal facilities that require a Minor Use Permit or Conditional Use Permit shall include an Odor Control Plan; a Dust Control Plan; a Dead Animal Management Plan, a Pest and Vector Control Plan; and a Light and Glare Control Plan.

SAFETY ELEMENT POLICIES

SA 4-1: Require businesses and agricultural operations to comply with all applicable local, state and federal regulations regarding the use, transport, storage and disposal of hazardous waste and hazardous materials.

SA 4-2: Utilize the development review process to reduce the risk of community exposure to hazardous materials.

SA 4-3: Encourage residents and businesses to minimize the use of toxic materials and products including the application of pesticides, and support education programs which increase the public awareness of the proper disposal of hazardous wastes in order to protect health, and resources such as groundwater quality.

SA 4-4: Require hazardous waste generated within the county to be disposed of in a safe manner, consistent with all applicable local, State, and Federal laws.

SA 4-5: Require hazardous materials to be stored in a safe manner, consistent with all applicable local, State, and Federal laws.

SA 4-6: Require compliance with the Glenn County Air Pollution Control District's Hazardous Waste Generator Program.

SA 4-7: Agricultural pesticide operations shall not occur when wind speed is in excess of 10 miles per hour (mph) or in meteorological conditions where inversion occurs. Generally, wind speeds of 3 to 7 mph are preferable. Pesticide manufacturers may impose further restrictions or requirements in regard to wind speed. In all cases, the label is the law. Contact the local County Agricultural Commissioner for specific requirements or conditions for the county in which pesticide operations are expected to occur.

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SAFETY ELEMENT ACTIONS

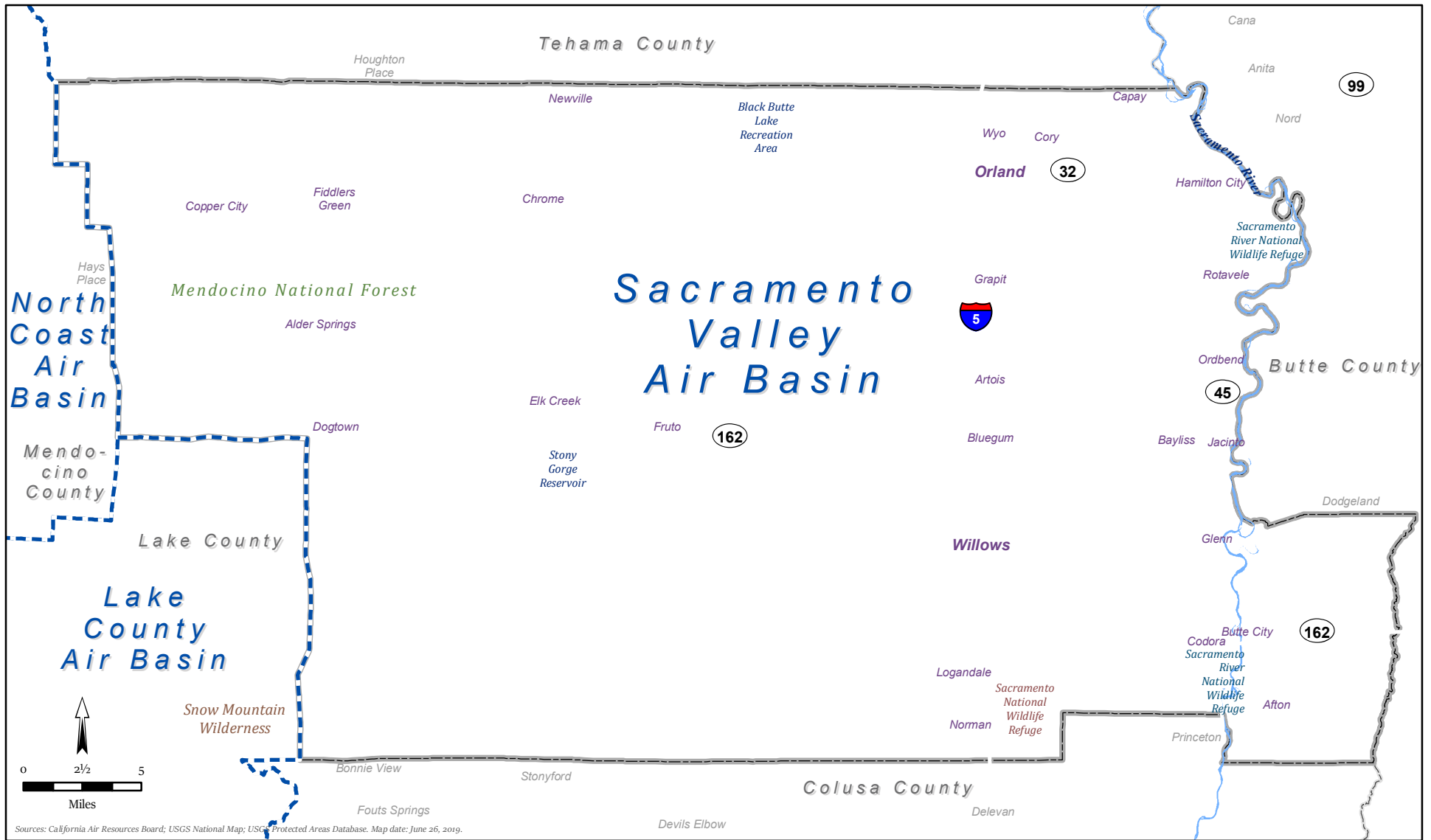
Action SA-4a: Coordinate with the Glenn County Air Pollution Control District as the Certified Unified Program Agency (CUPA) to ensure that businesses that handle hazardous materials prepare and file a Hazardous Materials Management Plan (HMMP), and Hazardous Materials Inventory Statement (HMIS). The HMMP and HMIS shall consist of general business information, basic information on the location, type, quantity, and health risks of hazardous materials, and emergency response and training plans.

Action SA-4b: Provide educational opportunities for generators of small quantity, household and agriculture waste products regarding their responsibilities for source reduction and proper and safe hazardous waste management and disposal.

Action SA-4c: Provide information about drop-off programs for the local disposal of household hazardous waste offered Glenn County. The availability of the programs should be widely publicized throughout the community.

Action SA-4d: The County will refer all permits for new projects or major additions to existing uses located on sites identified by the State as having or containing likely hazardous substances or materials to the Glenn County Air Pollution Control District to ensure compliance with applicable State and local regulations. If warranted, identify and require measures to ensure the exposure to hazardous materials from historical uses has been mitigated to acceptable levels consistent with EPA and/or DTSC standards.

Action SA-4e: Continue to work cooperatively with the Fire Districts and the Glenn County Air Pollution Control District to train local personnel in the specialized identification, handling and cleanup procedures that are required for radioactive, toxic, and hazardous substance spills.



- Legend**
- California Air Basin
- Public Lands**
- Mendocino National Forest
 - Wilderness Area
 - USFWS Sacramento National Wildlife Refuge
 - USFWS Sacramento River National Wildlife Refuge
 - BLM Lands



COUNTY OF GLENN, CALIFORNIA

FIGURE 3.3-1. SACRAMENTO VALLEY AIR BASIN

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This section describes biological resources in the Planning Area. This section provides a background discussion of the bioregions, regionally important habitat and wildlife, and special status species found in the vicinity of Glenn County. This section is organized with an environmental setting, regulatory setting, and impact analysis.

One comment on this environmental topic was received during the NOP comment period. The California Department of Fish and Wildlife (CDFW) provided comments about potential impacts to special status species and sensitive natural habitat. The letter provided general information on the types of impacts that could occur. These comments have been addressed throughout this EIR chapter.

KEY TERMS

The following key terms may be used throughout this section to describe biological resources and the framework that regulates them:

Hydric Soils. One of the three wetland identification parameters, according to the Federal definition of a wetland, hydric soils have characteristics that indicate they were developed in conditions where soil oxygen is limited by the presence of saturated soil for long periods during the growing season. There are approximately 2,000 named soils in the United States that may occur in wetlands.

Hydrophytic Vegetation. Plant types that typically occur in wetland areas. Nearly 5,000 plant types in the United States may occur in wetlands. Plants are listed in regional publications of the U.S. Fish and Wildlife Service (USFWS) and include such species as cattails, bulrushes, cordgrass, sphagnum moss, bald cypress, willows, mangroves, sedges, rushes, arrowheads, and water plantains.

Sensitive Natural Community. A sensitive natural community is a biological community that is regionally rare, provides important habitat opportunities for wildlife, is structurally complex, or is in other ways of special concern to local, State, or Federal agencies. The California Environmental Quality Act (CEQA) identifies the elimination or substantial degradation of such communities as a significant impact. The California Department of Fish and Wildlife (CDFW) tracks sensitive natural communities in the California Natural Diversity Database (CNDDB).

Special-Status Species. Special-status species are those plants and animals that, because of their recognized rarity or vulnerability to various causes of habitat loss or population decline, are recognized by Federal, State, or other agencies. Some of these species receive specific protection that is defined by Federal or State endangered species legislation. Others have been designated as "sensitive" on the basis of adopted policies and expertise of State resource agencies or organizations with acknowledged expertise, or policies adopted by local governmental agencies such as counties, cities, and special districts to meet local conservation objectives. These species are referred to collectively as "special status species" in this report, following a convention that has developed in practice but has no official sanction. For the purposes of this assessment, the term "special status" includes those species that are:

- Federally listed or proposed for listing under the Federal Endangered Species Act (50 CFR 17.11-17.12);

3.4 BIOLOGICAL RESOURCES

- Candidates for listing under the Federal Endangered Species Act (61 FR 7596-7613);
- State listed or proposed for listing under the California Endangered Species Act (14 CCR 670.5);
- Species listed by the USFWS or the CDFW as a species of concern (USFWS), rare (CDFW), or of special concern (CDFW);
- Fully protected animals, as defined by the State of California (California Fish and Game Code Section 3511, 4700, and 5050);
- Species that meet the definition of threatened, endangered, or rare under CEQA (CEQA Guidelines Section 15380);
- Plants listed as rare or endangered under the California Native Plant Protection Act (California Fish and Game Code Section 1900 et seq.); and
- Plants listed by the California Native Plant Society (CNPS) as rare, threatened, or endangered (List 1A and List 2 status plants in Skinner and Pavlik 1994).

Waters of the U.S. The Federal government defines waters of the U.S. as "lakes, rivers, streams, intermittent drainages, mudflats, sandflats, wetlands, sloughs, and wet meadows" [33 C.F.R. §328.3(a)]. Waters of the U.S. exhibit a defined bed and bank and ordinary high water mark (OHWM). The OHWM is defined by the U.S. Army Corps of Engineers (USACE) as "that line on shore established by the fluctuations of water and indicated by physical character of the soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas" [33 C.F.R. §328.3(e)].

Wetlands. Wetlands are ecologically complex habitats that support a variety of both plant and animal life. The Federal government defines wetlands as "those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support and under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions" [33 C.F.R. §328.3(b)]. Wetlands require wetland hydrology, hydric soils, and hydrophytic vegetation. Examples of wetlands include freshwater marsh, seasonal wetlands, and vernal pool complexes that have a hydrologic link to waters of the U.S.

3.4.1 ENVIRONMENTAL SETTING

Glenn County is located in the northern Sacramento Valley and the eastern foothills and mountains of the Coast Range, approximately 80 miles north of the City of Sacramento. The County encompasses approximately 1,317 square miles in north central California. The County extends from the Sacramento River west to the Coast Range. The climate varies by region, but generally the county has cool, wet winters and hot, dry summers. Precipitation is normally in the form of rain, with snow in the higher elevations, and ranges from approximately 19 to 24 inches on average per year.

BIOREGIONS

The county is defined by two different bioregions including the Sacramento Valley, and Klamath/North Coast. A brief description of each bioregion is presented below.

Sacramento Valley. The Sacramento Valley Bioregion is a watershed of the Sierra Nevada that encompasses the northern end of the great Central Valley, stretching from Redding to the southeast corner of Sacramento County. The bioregion is generally flat, and is rich in agriculture. The eastern portion of the County falls within this bioregion, which has a climate that is characterized by hot dry summers and cool wet winters. Oak woodlands, riparian forests, vernal pools, freshwater marshes, and grasslands provide the major natural vegetation of the bioregion. This bioregion is the most prominent wintering area for waterfowl, attracting significant numbers of ducks and geese to its seasonal marshes along the Pacific Flyway. Species include northern pintails, snow geese, tundra swans, sandhill cranes, mallards, grebes, peregrine falcons, heron, egrets, and hawks. Black-tailed deer, coyotes, river otters, muskrats, beavers, ospreys, bald eagles, salmon, steelhead, and swallowtail butterflies are some of the wildlife that are common in this bioregion.

Klamath/North Coast. The Klamath/North Coast Bioregion in California's northwestern corner extends roughly one-quarter of the way down the 1,100-mile coast and east across the Coastal Range and into the Cascades. Much of this bioregion is covered by forest and is the state's wettest climate, with rainfall distribution varying widely from an average annual 38 to 80 or more inches. The western portion of the County falls within this bioregion, which is considered "Inland" with a climate that is drier with low rainfall in winter and hot, dry summers. Vegetation includes mixed conifer habitat of white fir, Douglas fir, ponderosa pine, Sierra lodgepole pine, incense cedar, sugar pine, red fir, Jeffrey pine, mountain hemlock, knobcone pine, western red cedar, red alder, redwood, tanoak, Pacific madrone, and chaparral. Wildlife in the bioregion includes deer, fox, black bear, mountain lion, California clapper rail, Aleutian Canada geese, elk, osprey, fisher, bank swallow, salmon, Otis blue butterfly, bald eagle, Point Arena mountain beaver, Swainson's hawk, willow flycatcher, western sandpiper, and Oregon silverspot butterfly.

CALIFORNIA WILDLIFE HABITAT RELATIONSHIP SYSTEM

The California Wildlife Habitat Relationship (CWHR) habitat classification scheme has been developed to support the CWHR System, a wildlife information system and predictive model for California's regularly-occurring birds, mammals, reptiles and amphibians. When first published in 1988, the classification scheme had 53 habitats. At present, there are 59 wildlife habitats in the CWHR System: 27 tree, 12 shrub, 6 herbaceous, 4 aquatic, 8 agricultural, 1 developed, and 1 non-vegetated.

Glenn County is a biologically diverse part of the state. There are 42 land cover types (wildlife habitat classification) found in Glenn County out of the 59 found in California. These include: Alpine-Dwarf Shrub, Agricultural, Annual Grassland, Barren, Blue Oak Woodland, Blue Oak-Foothill Pine, Chamise-Redshank Chaparral, Closed-Cone Pine-Cypress, Coastal Oak Woodland, Coastal Shrub, Cropland, Deciduous Orchard, Douglas Fir, Dryland Grain Crops, Eucalyptus, Evergreen Orchard, Fresh Emergent Wetland, Irrigated Grain Crops, Irrigated Hayfield, Irrigated Row and Field Crops, Jeffrey Pine, Klamath Mixed Conifer, Lacustrine, Mixed Chaparral, Montane Chaparral, Montane Hardwood, Montane Hardwood-Conifer, Montane Riparian, Pasture, Perennial Grassland, Ponderosa Pine, Red Fir, Rice, Riverine, Sagebrush, Subalpine Conifer, Urban, Valley Foothill Riparian, Valley Oak Woodland, Water, Wet Meadow, and White Fir. Table 3.4-1 identifies the total area by acreage for

3.4 BIOLOGICAL RESOURCES

each land cover type (wildlife habitat classification) found in Glenn County. Figure 3.4-1 illustrates the location of each land cover type (wildlife habitat classification) within the County. A brief description of each cover type follows.

TABLE 3.4-1: COVER TYPES - CALIFORNIA WILDLIFE HABITAT RELATIONSHIP SYSTEM

COVER TYPES	ACREAGE
Alpine-Dwarf Shrub	77.39
Annual Grassland	198,758.15
Barren	4,879.53
Blue Oak Woodland	68,213.28
Blue Oak-Foothill Pine	25,795.33
Chamise-Redshank Chaparral	33,122.77
Closed-Cone Pine-Cypress	3,679.49
Coastal Oak Woodland	30.69
Coastal Shrub	389.94
Cropland	47,009.89
Deciduous Orchard	81,154.65
Douglas-Fir	20,710.32
Dryland Grain Crops	16,332.73
Eucalyptus	151.44
Evergreen Orchard	10,650.44
Freshwater Emergent Wetland	13,442.07
Irrigated Grain Crops	18,128.20
Irrigated Hayfield	19,735.92
Irrigated Row and Field Crops	2,682.33
Jeffrey Pine	219.48
Klamath Mixed Conifer	52,162.22
Lacustrine	3,419.18
Mixed Chaparral	54,375.74
Montane Chaparral	8,382.77
Montane Hardwood	28,357.01
Montane Hardwood-Conifer	5,661.38
Montane Riparian	401.09
Pasture	599.52
Perennial Grassland	4,258.10
Ponderosa Pine	3,721.37
Red Fir	3,525.07
Rice	88,514.16
Riverine	4,266.41
Sagebrush	39.36
Subalpine Conifer	4.45
Urban	10,285.45
Valley Foothill Riparian	7,052.62

COVER TYPES	ACREAGE
Valley Oak Woodland	2,261.02
Water	6,963.3
Wet Meadow	136.32
White Fir	5,478.14
Total	849,162.78

SOURCE: CASIL GIS DATA, 2019

Natural and Agricultural Communities

Closed-cone pine-cypress habitats are typically found on sites that are rockier and more infertile than the surrounding soils. Many stands are found on serpentine soils. Although, typically found at low elevations, due to the coastal distribution of much of this habitat type, interior stands may be found at elevations up to 6,550 ft. Landforms are gentle to steep slopes where stands occur in interior California and coastal terraces or bluffs where distributed along coastal California.

Douglas fir habitat is typically found in hot, dry summers and cool, mild, wet winters. Temperatures range from 57-72 F in the summer to 32-46 F in the winter. Annual precipitation varies from 24-27 in, generally less than 15 percent falling during summer. Precipitation increases inland and at higher elevations. Snowfall ranges from 2 to 31 inches and rarely persists later than June. Topography is characterized by rugged, deeply dissected terrain and steep slopes, especially toward the south. Major soil types are sedimentary granitic, and Ultramafic parent materials of gabbro, peridotite, and serpentine.

Eucalyptus habitats have been extensively planted throughout the state since their introduction in 1856 with large-scale planting operations beginning in 1870. As such, they are found in locations with highly variable site characteristics. Generally, they are found on relatively flat or gently rolling terrain, occasionally in the foothills. Climatic conditions are typically referred to as Mediterranean, characterized by hot, dry summers and cool, mild winters. Precipitation ranges from approximately 30 cm (12 in) to 60 cm (24 in). Temperature regimes in areas of eucalyptus groves range from a mean monthly low of 6 C (43 F) in January to 23 C (73 F) in August, with low temperatures occasionally reaching 0 to 4 C (32 to 25 F) and high temperatures typically exceeding 38 C (100 F). Eucalyptus demonstrates the ability to withstand many temperature conditions, with the exception of prolonged cold or freezing weather.

Jeffrey Pine occurs in a variety of physical settings throughout its extensive range. The tolerance of its dominant species to low temperatures allows the type to occupy the borders of topographic frost pockets and high cold ridges. It is commonly found on soils developed from granite and lava flows, but can also develop as a type on ultramafic soils. Its distribution in northern California west of the Sierra-Cascade crest is limited to such soils. Jeffrey pine is not restricted by aspect or slope.

Klamath mixed conifer habitat occupies a complex of mountain ranges in northern California which are characterized by rugged, deeply dissected terrain with steep slopes due to extensive glaciation. This area has a considerable amount of ultramafic parent material and soils with scattered areas of serpentinitic soils; it also overlays a very old and complex geological structure. Average slopes are

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60 percent or more and valleys are narrow. Climatic conditions include warm, wet winters and hot dry summers with precipitation varying from 69 inches on the western (maritime) side to 24 inches on the eastern (continental) side. Snowfall is moderate, ranging from 2 to 60 in, with large amounts of snowfall occurring at the middle and high elevations where this habitat occurs.

Montane hardwood-conifer habitat generally occurs on coarse, well drained mesic soils, in mountainous terrain with narrow valleys. Slopes average approximately 57 percent with all aspects encountered. Winters are cool and wet; summers are hot and dry. Northern California Montane Hardwood-Conifer sites have less rainfall and fog than Redwood or Mixed Conifer habitats. In southern California, this habitat is found at higher elevations, and in moist canyons. Average rainfall is 25 to 65 in, with some fog. The growing season is 7 to 11 months, with 200 to 300 frost-free days.

Ponderosa pine habitat is found on suitable mountain and foothill sites throughout California except in the immediate area of San Francisco Bay, in the north coast area, south of Kern County in the Sierra Nevada and east of the Sierra Nevada Crest. Ponderosa pine is found on all aspects, depending on soils and location within the local elevational range. Mean annual temperature is generally less than 55 F and precipitation is greater than 33 inches except in southern California. Less than one-third of the precipitation is snowfall.

Red fir habitats are found on frigid soils over a wide range of topography exclusive of very wet sites. Annual precipitation ranges from 40 to 50 inches per year, primarily as snow that forms packs up to 15 feet in winter. Summers are dry, limiting tree growth to seasonally available soil moisture.

Subalpine Conifer habitats are open forests with needle-leaved evergreen trees of low to medium stature. Stand density and tree height are typically greater at lower limits of its elevational range. In protected sites at lower elevations, tree height may exceed 30 m (100 ft), but trees on exposed sites and windy ridges near tree line are shaped into krummholz stunted, mat-like forms often only about 1 m (3 ft) tall. Shrubby vegetation and herbaceous ground cover are generally sparse or lacking. Litter accumulation is typically scanty, but fallen woody material persists for long periods in the cold climate.

White fir habitats are found on a variety of soils developed from different parent material, including volcanic and igneous rocks, granitics, various metamorphics, and sedimentary material. Soils are coarse textured, well-drained, have poorly developed profiles, are often rocky, and are cold, with mean annual temperatures from 32 -50 F. Cooler north- and east-facing slopes are the most common sites throughout the state. Precipitation is between 30-70 inches mostly in the form of snow. Almost all precipitation falls between October and May.

Hardwood Woodland

Blue oak-foothill pine habitat occurs in a typically Mediterranean climate with hot, dry summers and cool, wet winters. Most precipitation falls as rain from November through April, averaging 20 to 40 inches within the primary range of blue oak. The frost-free growing season ranges from 150 to 300 days, with winter temperatures averaging 30 F and summer temperatures averaging 90 F. Soils

are from a variety of generally well-drained parent materials, ranging from gravelly loam through stony clay loam, with soils commonly rich in rock fragments.

Blue oak woodland habitat is usually associated with shallow, rocky, infertile, well-drained soils from a variety of parent materials. The climate is Mediterranean, with mild wet winters and hot dry summers. Average annual precipitation varies from 20 to 40 inches over most of the range, although extremes are noted from 10 to 60 inches. Mean temperatures range from 75-96 F in summer to 29-42 F in winter. The growing season ranges from 6 months in the north to the entire year in the south, with 175 to 365 frost-free days.

Valley oak woodland habitat occurs in a wide range of physiographic settings but is best developed on deep, well-drained alluvial soils, usually in valley bottoms. Most large, healthy valley oaks are probably rooted down to permanent water supplies. Stands of valley oaks are found in deep sills on broad ridge-tops in the southern Coast Range. Where this type occurs near the coast, it is usually found away from the main fog zone. The climate is Mediterranean, with mild, wet winters and hot, dry summers.

Valley-foothill riparian habitats are found in valleys bordered by sloping alluvial fans, slightly dissected terraces, lower foothills, and coastal plains. They are generally associated with low velocity flows, flood plains, and gentle topography. Valleys provide deep alluvial soils and a high water table. The substrate is coarse, gravelly or rocky soils more or less permanently moist, but probably well aerated. Frost and short periods of freezing occur in winter (200 to 350 frost-free days). This habitat is characterized by hot, dry summers, mild and wet winters. Temperatures range from 75 to 102 F in the summer to 29 to 44 F in the winter. Average precipitation ranges from 6-30 inches, with little or no snow. The growing season is 7 to 11 months.

Hardwood Forest

Montane hardwood habitat is found on a wide range of slopes, especially those that are moderate to steep. Soils are for the most part rocky, alluvial, coarse textured, poorly developed, and well drained. Soil depth ranges from shallow to deep. Summer temperatures vary between 68 and 77 F and winter vary from 37 to 45 F. Frost-free days range from 160 to 230. Annual precipitation varies from 110 inches in the northern Coast Range to 36 inches in the mountains of southern California.

Montane Riparian areas are found associated with montane lakes, ponds, seeps, bogs and meadows as well as rivers, streams and springs. Water may be permanent or ephemeral. The growing season extends from spring until late fall, becoming shorter at higher elevations. Most tree species flower in early spring before leafing out.

Shrub

Alpine-Dwarf Shrub habitat is found above timberline on all aspects, slopes, and ridge lines, so the physical environment tends to be cold, dry, and windy. In the northern portion of California, this habitat is cold with a brief summer growing season. This habitat is subject to intense solar radiation and freezing nights in summer. It is subject to severe winds and very low temperatures in winter on windward slopes, which are often blown clear of snow. Protected slopes often have persistent

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snowdrifts until midsummer or later. The substrate is quite rocky with little soil formation and excellent drainage. Plants in this habitat are subject to desiccation by midsummer after meltwater disappears.

Chamise-Redshank Chaparral is found where soils are thin with little accumulation of organic. Chamise may be a dominant shrub on some serpentine sites and is most common on south and west facing slopes, while redshank is found on all aspects. Chamise-Redshank Chaparral is found in a Mediterranean climate; rainfall is 38 to 63 cm (15 to 25 in), less than 20 percent of total precipitation falls in summer, and winters are mild. The predominant land forms are steep slopes and ridges.

Mixed Chaparral occurs on all aspects, but at lower elevations, it generally is found on north-facing slopes. Generally, it occurs on steep slopes and ridges with relatively thin, well-drained soils. Soils can be rocky, sandy, gravelly or heavy. The Mediterranean climate is characterized by cool, wet winters and hot, dry summers. Total rainfall is 38 to 63 cm (15 to 25 in) with less than 20 percent falling during the summer.

Montane chaparral can be found on shallow to deep soils, on all exposures, and from gentle to relatively steep slopes. It may dominate on more xeric sites, but occurs locally throughout the coniferous forest zone. Generally, climate is like that associated with the coniferous forest zone, cold winter temperatures with substantial precipitation. Summers are typically hot and dry. In the northern portion of the state, montane chaparral is found between 914 to 2743 m (3000-9000 ft).

Sagebrush habitat occurs at a wide range of middle and high elevations. At lower elevations and on drier sites, it gives way to such species as saltbrush, greasewood, creosotebush, and winterfat. At mid-elevations and on more mesic sites the habitat meets bitterbrush, curleaf mountain mahogany, and western serviceberry. At high elevations it intergrades with Ponderosa Pine and even with Aspen habitat types.

Herbaceous

Annual Grassland habitat occurs mostly on flat plains to gently rolling foothills. Climatic conditions are typically Mediterranean, with cool, wet winters and dry, hot summers. The length of the frost free season averages 250 to 300 days (18 to 21 fortnights). Annual precipitation is highest in northern California.

Perennial Grassland habitat typically occurs on ridges and south-facing slopes, alternating with forest and scrub in the valleys and on north-facing slopes. Perennial Grassland habitats are most often found on Mollisols. These soils may grade into Inceptisols to the north, with higher precipitation allowing for leaching of the mollic horizon, and into Alfisols to the south, under drier conditions.

Wet meadows occur where water is at or near the surface most of the growing season, following spring runoff. Hydrologically, they occupy lotic, sunken concave, and hanging sites. Lotic sites are those with main input flow (other than precipitation) from upstream sources; at least early in the growing season, water flows across them at depths of 4-8 inches. Downstream runoff is the principal output flow. Lotic sites are topographic basins but have a slight slope, which permits drainage of

surface water. Percolation is nil due to the saturated or slowly permeable nature of underlying materials. Sunken concave sites also receive water input from upstream sources, but evapotranspiration is the main output flow. Percolation is slowed by heavy-textured soils and/or shallow bedrock; however, in contrast to lotic and hanging sites, soil of sunken concave sites may dry to considerable depth by fall. Hanging sites are watered by hydrostatic flows as springs or seeps. They frequently occur on rather steep slopes, and downstream runoff is the main output flow. Surface flows, although constant, are usually no more than 0.4 inches deep.

Fresh emergent wetland habitats occur on virtually all exposures and slopes, provided a basin or depression is saturated or at least periodically flooded. They are most common on level to gently rolling topography. They are found in various depressions or at the edge of rivers or lakes. Soils are predominantly silt and clay, although coarser sediments and organic material may be intermixed. In some areas organic soils (peat) may constitute the primary growth medium. Climatic conditions are highly variable and range from the extreme summer heat to winter temperatures well below freezing.

Other

There are a variety of other habitat types documented with Glenn County. These include aquatic habitats such as lacustrine (water) and riverine (rivers/creeks), and agricultural habitats (deciduous orchard, dryland grain crops, evergreen orchards, irrigated grain crops, irrigated hayfields, irrigated row and field crops, pasture, rice and vineyard). Additionally, Glenn County contains areas that are barren and urban.

SPECIAL-STATUS SPECIES

The following discussion is based on a background search of special-status species that are documented in the CNDDDB, the California Native Plant Survey (CNPS) Inventory of Rare and Endangered Plants, and the USFWS endangered and threatened species lists. The background search was regional in scope and focused on the documented occurrences within the region.

Special Status Plants

The search revealed documented occurrences of the 38 special status plant species within Glenn County. Table 3.4-2 provides a list of special-status plant species that are documented in the region, including the species name, their habitat, and current protective status. Figure 5.2-5 illustrates the location of each documented occurrence.

TABLE 3.4-2: SPECIAL STATUS PLANTS PRESENT OR POTENTIALLY PRESENT IN GLENN COUNTY

SPECIES	STATUS	HABITAT
<i>PLANTS</i>		
<i>Atriplex persistens</i> Vernal pool smallscale	--;--;1B	Vernal pools (alkaline). 10-115M.
<i>Centromadia parryi ssp. parryi</i> Pappose tarplant	--;--;1B	Chaparral, coastal prairie, meadows and seeps, marshes and swamps (coastal salt), valley and foothill grassland (vernally mesic). 0-420M.

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SPECIES	STATUS	HABITAT
<i>Antirrhinum subcordatum</i> dimorphic snapdragon	--;--;4	Chaparral, lower montane coniferous forest. Generally on serpentine or shale in foothill woodland or chaparral on S. and W. facing slopes. 185-800M.
<i>Brasenia schrebri</i> Watersheid	--;--;2	Freshwater marshes and swamps. 30-2200M.
<i>Arctostaphylos manzanita</i> ssp. <i>elegans</i> Konocti manzanita	--;--;1B	Chaparral, cismontane, lower montane coniferous forest. Volcanic soils. 395-1400M.
<i>Astragalus rattanii</i> var. <i>jepsonianus</i> Jepson's milk-vetch	--;--;1B	Cismontane woodland, valley and foothill grassland, chaparral. Commonly on serpentine in grassland or openings in chaparral 320-700M.
<i>Cryptantha crinita</i> Silky cryptantha	--;--;1B	Gravelly streambeds, cismontane woodland, lower montane coniferous forest, riparian forest, riparian woodland, valley and foothill grassland. 61-1215M.
<i>Atriplex cordulata</i> Heartscale	--;--;1B	Chenopod scrub, meadows, seeps, Sandy soils in the valley and foothill grasslands (Dry alkaline flats)
<i>Atriplex depressa</i> Brittlescale	--;--;1B	Chenopod scrub, meadows and seeps, playas, valley and foothill grassland, and vernal pools (Alkaline flats and clay soils)
<i>Atriplex joaquinian</i> San Joaquin spearscale	--;--;1B	Chenopod scrub, alkali meadow, valley and foothill grassland. In seasonal alkali wetlands or alkali sink scrub 1-250M.
<i>Brodiaea coronaria</i> ssp. <i>rosea</i> Indian Valley brodiaea	--;CE;1B	Closed-cone coniferous forest, chaparral, cismontane woodland, valley and foothill grassland, meadows. Serpentine gravelly creek bottoms, and in meadows and swales. 335-1450M.
<i>Castilleja rubicundula</i> ssp. <i>rubicundula</i> Pink creamsacs	--;--;1B	Chaparral, meadows, and seeps, valley and foothill grassland. Openings in chaparral or grasslands. Serpentine. 20-900M.
<i>Chlorogalum pomeridianum</i> var. <i>minus</i> dwarf soaproot	--;--;1B	Chaparral, valley and foothill grassland. Serpentine. 240-970M.
<i>Cordylanthus palmatus</i> palmate-bracted bird's-beak	FE;CE;1B	Chenopod scrub, valley and foothill grassland. Usually on Pescadero silty clay which is alkaline, with <i>Distichilis</i> , <i>Frankenia</i> , etc. ETC. 5-155M.
<i>Epilobium nivium</i> Snow Mountain willowherb	--;--;1B	Upper montane coniferous forest, chaparral. In crevices of rocky outcrops, and dry talus and shale slopes. 785-2500M.
<i>Euphorbia hooveri</i> Hoover's spurge	FT;--;1B	Vernal Pools. 25-250M.
<i>Eriastrum tracyi</i> Tracy's eriastrum	--;CR;1B	Chaparral, cismontane woodland. Gravelly shale or clay; often in open areas. 315-760M.
<i>Eriogonum nervulosum</i> Snow Mountain buckwheat	--;--;1B	Chaparral. Dry serpentine outcrops, balds, and barrens. 300-2100M.
<i>Euphoria ocellate</i> ssp. <i>rattanii</i> Stony creek spurge	--;--;1B	Chaparral, Riparian scrub (streambank) Valley and foothill grassland (sandy or rocky). 65-800M.
<i>Fritillaria pluriflora</i> Adobe-lily	--;--;1B	Chaparral, cismontane woodland, foothill grassland. Usually on clay soils; sometimes serpentine. 55-820M.
<i>Hesperolinon drymarioides</i> Drymaria-like western flax	--;--;1B	Closed-cone coniferous forest, chaparral, cismontane woodland, valley and foothill grassland. Serpentine soils, mostly within chaparral. 390-1000M.

SPECIES	STATUS	HABITAT
<i>Hibiscus lasiocarpus</i> Woolly rose-mallow	--;;2	Marshes and swamps (freshwater). Moist, freshwater soaked river banks and low peat islands in sloughs; in California, known from the Delta Watershed. 0-150M.
<i>Hesperolinon tehamense</i> Tehama county western flax	--;;1B	Serpentinite, chaparral, cismontane woodland. 100-1250M.
<i>Layia septentrionalis</i> Colusa layia	--;;1B	Chaparral, cismontane woodland, valley and foothill grassland, scattered colonies in fields and grassy slopes in sandy or serpentine soil. 145-1095M.
<i>Lepidium latipes var. heckardii</i> Heckard's pepper-grass	--;;1B	Valley and foothill grassland (alkaline flats). 2-200M.
<i>Lupinus antoninus</i> Anthony peak lupine	--;;1B	Rocky, lower montane coniferous forest, upper montane coniferous forest. 1220-2285M.
<i>Navarretia leucocephala ssp. bakeri</i> Baker's navarretia	--;;1B	Cismontane woodland, meadows and seeps, vernal pools, valley and foothill grassland, lower montane coniferous forest. Vernal pools and swales, adobe or alkaline soils. 5-950M.
<i>Neostapfia colusana</i> Colusa grass	FT;CE;1B	Vernal pools. Usually in large, or deep vernal pool bottoms; adobe soils. 5-110M.
<i>Orcuttia pilosa</i> Hairy Orcutt grass	FE;CE;1B	Vernal pools. 46-200M.
<i>Puccinellia simplex</i> California alkali grass	--;;1B	Alkaline, vernal mesic; sinks, flats, and lake margins. Chenopod scrub, meadows and seeps, valley and foothill grassland, vernal pools. 2-920M.
<i>Sedum laxum ssp. flavidum</i> Pale yellow stonecrop	--;;4	Serpentinite or volcanic, broadleaved upland forest, chaparral, cismontane woodland, lower montane coniferous forest, upper montane coniferous forest. 455-2000M.
<i>Sidalcea oregana ssp. hydrophila</i> Marsh checkerbloom	--;;1B	Meadows and seeps, riparian forest. 1100-2300M.
<i>Stellaria obtusa</i> Obtuse starwort	--;;4	Streambanks, lower montane coniferous forest, riparian woodland, upper montane coniferous forest 150-2290M.
<i>Streptanthus hesperidis</i> Green jewelflower	--;;1B	Serpentinite, rocky, chaparral (openings), cismontane woodland. 130-760M.
<i>Tropidocarpum capparideum</i> Caper-fruited tropidocarpum	--;;1B	Valley and foothill grassland (alkaline hills). 1-455M.
<i>Tuctoria greenei</i> Greene's tuctoria	FE;CR;1B	Vernal Pools. 30-1070M.
<i>Wolffia brasiliensis</i> Brazilian watermeal	--;;2	Assorted shallow freshwater marshes and swamps. 20-100M.
<i>Viburnum ellipticum</i> Oval-leaved viburnum	--;;2	Chaparral, cismontane woodland, lower montane coniferous forest. 215-1400M.

SOURCE: CDFW CNDDDB 2019

NOTES: STATUS IS SHOWN FOR (FEDERAL/STATE/CNPS). (--) INDICATES NO LISTING STATUS.

ABBREVIATIONS:

- FE FEDERAL ENDANGERED
- FT FEDERAL THREATENED
- CE CALIFORNIA ENDANGERED SPECIES

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CT	CALIFORNIA THREATENED
CR	CALIFORNIA RARE (PROTECTED BY NATIVE PLANT PROTECTION ACT)
1B	CNPS - RARE, THREATENED, OR ENDANGERED
2	CNPS - RARE, THREATENED, OR ENDANGERED IN CALIFORNIA, BUT MORE COMMON ELSEWHERE
4	CNPS - PLANTS OF LIMITED DISTRIBUTION - A WATCH LIST

Special Status Animals

The search revealed documented occurrences of the 35 special status animal species within Glenn County including: eight invertebrates, four amphibians/reptiles, 13 birds, 1 fish, and 9 mammals. Table 3.4-3 provides a list of the special-status animal species that are documented in Glenn County, their habitat, and current protective status. Figure 3.4-2 illustrates the location of each documented occurrence.

TABLE 3.4-3: SPECIAL STATUS ANIMALS PRESENT OR POTENTIALLY PRESENT IN GLENN COUNTY

SPECIES	STATUS	HABITAT
INVERTEBRATES		
<i>Branchinecta lynchi</i> Vernal pool fairy shrimp	FT;--	Endemic to grasslands of the central valley, central coast mtns., and south coast mtns., in astatic rain-filled pools. Inhabit small, clear-water sandstone-depression pools and grassed swale, earth slump, or basalt-flow depression pools.
<i>Branchinecta conservatio</i> Conservancy fairy shrimp	FE;--	Inhabit rather large, cool-water vernal pools with moderately turbid water. The pools generally last until June.
<i>Lindieriella occidentalis</i> California linderiella	--;--	Cold winter waters. Large, clear vernal pools. Typical in Central Valley floristic provinces below 300-m
<i>Lepidurus packardii</i> Vernal pool tadpole shrimp	FE;--	Inhabits vernal pools and swales in the Sacramento Valley containing clear to highly turbid water. Pools commonly found in grass bottomed swales of unplowed grasslands. Some pools are mud-bottomed & highly turbid.
<i>Desmocerus californicus dimorphus</i> Valley elderberry longhorn beetle	FT;--	Found on or close to its host plant, red or blue elderberry (<i>Sambucus</i> species), along rivers and streams. Females lay their eggs on the bark. Larvae hatch and burrow into the stems.
<i>Anthicus sacramento</i> Antioch Dunes anthicid beetle	--;--	Interior sand dunes and sand bars. Commonly collected in pitfall traps in bare, unvegetated sand.
<i>Anthicus sacramento</i> Sacramento anthicid beetle	--;--	Interior sand dunes and sand bars. Usually trapped in sandy areas with some vegetative cover.
<i>Bombus crotchii</i> Crotch bumble bee	--;--	Occurs at relatively warm and dry sites, open grassland and scrub
AMPHIBIANS/REPTILES		
<i>Actinemys marmorata</i> western pond turtle	--;CSC	A thoroughly aquatic turtle of ponds, marshes, rivers, streams, and irrigation ditches with aquatic vegetation. Need basking sites and suitable (sandy banks or grassy open fields) upland habitat for egg-laying.
<i>Rana boylei</i> foothill yellow-legged frog	--;CSC	Partly-shaded, shallow streams and riffles with a rocky substrate in a variety of habitats. Need at least some cobble-sized substrate for egg-laying. Need at least 15 weeks to attain metamorphosis.

SPECIES	STATUS	HABITAT
Spea hammondii western spadefoot toad	--;CSC	Occurs primarily in grassland habitats, but can be found in valley-foothill hardwood woodlands. Vernal pools are essential for breeding and egg-laying.
Thamnophis gigas Giant garter snake	FT;CT	Freshwater marshes, sloughs, ponds, small lakes or low gradient streams with adjacent upland areas. Also has adapted to drainage canals, irrigation ditches, and agricultural wetlands especially flooded rice fields.
BIRDS		
<i>Accipiter gentilis</i> Northern goshawk	--; CSC	North Coast Ranges through Sierra Nevada, Klamath, Cascade, and Warner Mts., in Mt. Pinos and San Jacinto, San Bernardino, and White Mts. Prefers middle and higher elevations, and mature, dense conifer forests. Casual in winter along north coast, throughout foothills, and in northern deserts, where it may be found in pinyon-juniper and low-elevation riparian habitats.
<i>Agelaius tricolor</i> tricolored blackbird	FSC;CSC	Highly colonial species, most numerous in central valley and vicinity. Largely endemic to California. Requires open water, protected nesting substrate, and foraging area with insect prey within a few km of the colony.
<i>Adrea alba</i> Great egret	--;--	Common yearlong resident throughout California, except for high mountains and deserts.
<i>Athene cuniculari</i> Burrowing owl	FSC; CSC	Open, dry annual or perennial grasslands, deserts and scrublands characterized by low-growing vegetation. Subterranean nester, dependent upon burrowing mammals, most notably, the California ground squirrel.
<i>Adrea herodias</i> Great blue heron	--;--	Marshes, mangroves, swamps, lake water or edges, costal lagoons, ditches, estuaries, shorelines, coastal waters, flooded meadows, and flowing streams.
<i>Buteo swainsoni</i> Swainson's hawk	FSC; CT	Breeds in grasslands with scattered trees, juniper-sage flats, riparian areas, savannahs, and agricultural or ranches. Requires adjacent suitable foraging areas such as grasslands, or alfalfa or grain fields supporting rodent populations.
<i>Coccyzus americanus occidentalis</i> Western yellow-billed cuckoo	FT; CE	Nesting restricted to river bottoms and other mesic habitats where humidity is high.
<i>Egretta thula</i> snowy egret	FSC/ MBTA	Colonial nester, with nest sites situated in protected beds of dense tules. Rookery sites situated close to foraging areas; marshes, tidal flats, streams, wet meadows, and borders of lakes.
<i>Falco mexicanus</i> prairie falcon	FSC/ MBTA; Raptor	Inhabits dry, open terrain, either level or hilly breeding sites located on cliffs. Forages far afield, even to marshlands and ocean shores.
<i>Haliaeetus leucocephalus</i> bald eagle	FSC/FD; CE/CP	Ocean shore, lake margins, and rivers for both nesting and wintering. Most nests within one mile of water. Nests in large, old-growth, or dominant live three w/open branches especially ponderosa pine. Roosts communally in winter.
<i>Nycticorax</i> black-crowned night heron	MBTA;--	Colonial nester, usually in trees, occasionally in tule patches. Rookery sites located adjacent to foraging areas: lake margins, mud-bordered bays, marshy spots.

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SPECIES	STATUS	HABITAT
<i>Pandion haliaetus</i> osprey	MBTA; Raptor	Ocean shore, bays, fresh water lakes, and larger streams. Large nests built in tree tops within 15 miles of a good fish producing body of water.
<i>Riparia</i> bank swallow	--;CT	Restricted to riparian areas with vertical cliffs and banks with fine-textured or sandy soils while breeding.
FISH		
<i>Oncorhynchus mykiss irideus</i> pop. 11 Steelhead – central valley DPS	FT;--	Primarily in cool, clear, fast-flowing waters. They typically thrive in tailwaters of large dams, but also can easily adapt to inhabiting lakes and reservoirs with ample food.
MAMMALS		
<i>Erethizon dorastum</i> North American porcupine	--;--	Most common in montane conifer, Douglas-fir, alpine dwarf-shrub, and wet meadow habitats. Less common in hardwood, hardwood-conifer, montane and valley-foothill riparian, aspen, pinyon-juniper, low sage, sagebrush, and bitterbrush.
<i>Lasionycteris noctivagans</i> silver-haired bat	--;--	Primarily a coastal & montane forest dweller feeding over streams, ponds & open brushy areas. Roosts in hollow trees, beneath exfoliating bark, abandoned woodpecker holes & rarely under rocks. Needs drinking water.
<i>Lasiurus blossevillii</i> western red bat	FSC;CSC	Roosts primarily in trees, 2-40 ft above ground, from sea level up through mixed conifer forests. Prefers habitat at edges & mosaics with trees that are protected from above & open below with open areas for foraging.
<i>Lasiurus cinereus</i> hoary bat	--;--	Prefers open habitat or habitat mosaics, with access to trees for cover & open areas or habitat edges for feeding. Roosts in dense foliage of medium to large trees. Feeds primarily on moths. requires water.
<i>Martes americana humboldtensis</i> Humboldt marten	--;CSC	Occurs only in the coastal redwood zone from the Oregon border south to Sonoma County. Associated with late succession coniferous forests, prefer forests with low, overhead cover.
<i>Pekania pennanti</i> Fisher – west coast DPS	--;CSC	Coniferous or mixed forests that provide abundant potential den sites, rest sites, and preferred prey species. Key habitat components include relatively large diameter trees, high canopy closure, large trees (hardwood and conifer) with cavities, and large down wood.
<i>Eumops perotis californicus</i> Western mastiff bat	--;CSC	Most frequently encountered in broad open areas. Generally, this bat is found in a variety of habitats, from dry desert washes, flood plains, chaparral, oak woodland, open ponderosa pine forest, grassland, montane meadows, and agricultural areas
<i>Myotis yumanensis</i> Yuma myotis	FSC;--	Reside in open forests and woodland habitats with sources of water over which to feed. Roost in buildings, mines, caves, and crevices.
<i>Taxidea taxus</i> American badger	--;CSC	Most abundant in drier open stages of most shrub, forest, and herbaceous habitats, with friable soils. Need sufficient food, friable soils and open, uncultivated ground. Prey on burrowing rodents. Dig burrows.

SOURCE: CDFW CNDDDB 2019

NOTES: STATUS IS SHOWN FOR (FEDERAL/STATE). (--) INDICATES NO LISTING STATUS.

ABBREVIATIONS:

<i>FE</i>	<i>FEDERAL ENDANGERED</i>
<i>FT</i>	<i>FEDERAL THREATENED</i>
<i>FC</i>	<i>FEDERAL CANDIDATE</i>
<i>FSC</i>	<i>FEDERAL SPECIES OF CONCERN</i>
<i>FD</i>	<i>FEDERAL DELISTED</i>
<i>MBTA</i>	<i>PROTECTED BY MIGRATORY BIRD TREATY ACT</i>
<i>CE</i>	<i>CALIFORNIA ENDANGERED SPECIES</i>
<i>CT</i>	<i>CALIFORNIA THREATENED</i>
<i>CP</i>	<i>CALIFORNIA FULLY PROTECTED UNDER §3511, 4700, 5050 AND 5515 FG CODE</i>
<i>CSC</i>	<i>CDFW SPECIES OF SPECIAL CONCERN</i>

Sensitive Natural Communities

The California Department of Fish and Wildlife (CDFW) considers sensitive natural communities to have significant biotic value, with species of plants and animals unique to each community. The CNDDDB search revealed seven sensitive natural communities within the Planning Area and a brief description follows. Figure 3.4-2 illustrates the location of each natural community.

COASTAL AND VALLEY FRESHWATER MARSH

Coastal and Valley Freshwater Marsh is found along the coast and in coastal valleys near river mouths and around the margins of lakes and springs, and they are the most extensive in the upper portion of the Sacramento-San Joaquin River Delta. This natural community is common in the river oxbows and other areas of a flood plain. This natural community is found in areas that lack significant stream/river current and are permanently flooded by fresh water (rather than brackish, alkaline, or variable). Prolonged saturation permits accumulation of deep, peaty soils. Perennial, emergent monocots up to 4-5m tall dominate this habitat. They often form completely closed canopies.

GREAT VALLEY COTTONWOOD RIPARIAN FOREST

Great Valley Cottonwood Riparian Forest is found in fine-grained alluvial soils near perennial or nearly-perennial streams that provide subsurface irrigation even when the channel is dry. These sites are inundated yearly during spring, resulting in annual input of nutrients, soil, and new germination sites. This natural community is a dense, broadleafed, winter-deciduous riparian forest dominated by Fremont's cottonwood (*Populus fremontii*) and San Joaquin willow (*Salix goodingii*). Understories are dense, with abundant vegetative reproduction of canopy dominants. California wild grape (*Vitis californica*) is the most conspicuous vine species. Scattered seedlings and saplings of shade-tolerant species such as Box elder (*Acer negundo*) or Oregon ash (*Fraxinus latifolia*) may be found, but frequent flooding prevents their reaching into the canopy.

GREAT VALLEY MIXED RIPARIAN FOREST

Great Valley Mixed Riparian Forest is found on relatively fine-textured alluvium somewhat back from active river channels. These sites experience overbank flooding (with abundant alluvial deposition and groundwater recharge) but not too severe physical battering or erosion. This natural community is a tall, dense, winter-deciduous, broadleafed riparian forest with a tree canopy that is fairly well closed and moderately to densely stocked with several species including Box elder (*Acer negundo*),

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California black walnut (*Juglans hindsii*), California sycamore (*Platanus racemosa*), Fremont's cottonwood (*Populus fremontii*) and San Joaquin willow (*Salix goodingii*), red willow (*Salix laevigata*), and shining willow (*Salix lucida*). Understories consist of these taxa plus shade-tolerant shrubs like buttonbush (*Cephalanthus occidentalis*) and Oregon ash (*Fraxinus latifolia*). Several vine species are conspicuous in both tree and shrub canopies.

GREAT VALLEY VALLEY OAK RIPARIAN FOREST

The Great Valley Oak Riparian Forest is the highest elevational element of the riparian complex, this community intergrades with typically upland communities at the margins of the floodplain. This community is composed of medium-to-tall broadleaved, winter-deciduous species and is dominated by the Valley oak. Associated understory vegetation includes sycamore, Oregon ash, Hind's walnut, California rose, wild grape, poison oak, blackberry, and greenbriar.

GREAT VALLEY WILLOW SCRUB

The Great Valley Willow Scrub are found along all of the major rivers and most of the smaller streams throughout the Great Valley watershed. This natural community is an open to dense, broadleaved, winter-deciduous shrubby streamside thicket dominated by any of several willow species (*Salix* spp.). Dense stands usually have little understory or herbaceous component, while more open stands have grassy understories, usually dominated by introduced species.

VALLEY NEEDLEGRASS GRASSLAND

Valley Needlegrass Grassland is a mid-height (to 2 feet) grassland dominated by perennial, tussock-forming purple needlegrass (*Nassella pulchra*). Native and introduced annuals occur between the perennials, often exceeding the bunchgrasses in cover. They are usually found on fine-textured (often clay) soils, moist or even waterlogged during the winter, but very dry in the summer. Often associated with Oak Woodlands on moister, better drained sites.

3.4.2 REGULATORY SETTING

There are a number of regulatory agencies whose responsibility includes the oversight of the natural resources of the State and nation including the CDFW, the USFWS, the USACE, and the National Marine Fisheries Service (NMFS). These agencies often respond to declines in the quantity of a particular habitat or plant or animal species by developing protective measures for those species or habitat type. The following is an overview of the Federal, State, and local regulations that are applicable to implementing the General Plan.

FEDERAL

Federal Endangered Species Act

The Federal Endangered Species Act, passed in 1973, defines an endangered species as any species or subspecies that is in danger of extinction throughout all or a significant portion of its range. A threatened species is defined as any species or subspecies that is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range.

Once a species is listed it is fully protected from a “take” unless a take permit is issued by the United States Fish and Wildlife Service. A take is defined as the harassing, harming, pursuing, hunting, shooting, wounding, killing, trapping, capturing, or collecting wildlife species or any attempt to engage in such conduct, including modification of its habitat (16 USC 1532, 50 CFR 17.3). Proposed endangered or threatened species are those species for which a proposed regulation, but not a final rule, has been published in the Federal Register.

Migratory Bird Treaty Act

To kill, possess, or trade a migratory bird, bird part, nest, or egg is a violation of the Federal Migratory Bird Treaty Act (FMBTA: 16 U.S.C., §703, Supp. I, 1989), unless it is in accordance with the regulations that have been set forth by the Secretary of the Interior.

Bald and Golden Eagle Protection Act

The Bald and Golden Eagle Protection Act (16 USC Section 668) protects these birds from direct take and prohibits the take or commerce of any part of these species. The USFWS administers the act, and reviews Federal agency actions that may affect these species.

Clean Water Act – Section 404

Section 404 of the Clean Water Act (CWA) regulates all discharges of dredged or fill material into waters of the U.S. Discharges of fill material includes the placement of fill that is necessary for the construction of any structure, or impoundment requiring rock, sand, dirt, or other material for its construction; site-development fills for recreational, industrial, commercial, residential, and other uses; causeways or road fills; and fill for intake and outfall pipes and subaqueous utility lines [33 C.F.R. §323.2(f)].

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Waters of the U.S. include lakes, rivers, streams, intermittent drainages, mudflats, sandflats, wetlands, sloughs, and wet meadows [33 C.F.R. §328.3(a)]. Wetlands are defined as “those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support and under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions” [33 C.F.R. §328.3(b)]. Waters of the U.S. exhibit a defined bed and bank and ordinary high water mark (OHWM). The OHWM is defined by the USACE as “that line on shore established by the fluctuations of water and indicated by physical character of the soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas” [33 C.F.R. §328.3(e)].

The USACE is the agency responsible for administering the permit process for activities that affect waters of the U.S. Executive Order 11990 is a Federal implementation policy, which is intended to result in no net loss of wetlands.

Clean Water Act – Section 401

Section 401 of the CWA (33 U.S.C. 1341) requires an applicant who is seeking a 404 permit to first obtain a water quality certification from the Regional Water Quality Control Board. To obtain the water quality certification, the Regional Water Quality Control Board must indicate that the proposed fill would be consistent with the standards set forth by the State.

Department of Transportation Act - Section 4(f)

Section 4(f) has been part of Federal law since 1966. It was enacted as Section 4(f) of the Department of Transportation (DOT) Act of 1966 and set forth in Title 49 United States Code (U.S.C.), Section 1653(f). In January 1983, as part of an overall recodification of the DOT Act, Section 4(f) was amended and codified in 49 U.S.C. Section 303. This law established policy on Lands, Wildlife and Waterfowl Refuges, and Historic Sites as follows:

It is the policy of the United States Government that special effort should be made to preserve the natural beauty of the countryside and public park and recreation lands, wildlife and waterfowl refuges, and historic sites. The Secretary of Transportation shall cooperate and consult with the Secretaries of the Interior, Housing and Urban Development, and Agriculture, and with the States, in developing transportation plans and programs that include measures to maintain or enhance the natural beauty of lands crossed by transportation activities or facilities. The Secretary of Transportation may approve a transportation program or project (other than any project for a park road or parkway under section 204 of title 23) requiring the use of publicly owned land of a public park, recreation area, or wildlife and waterfowl refuge of national, State, or local significance, or land of a historic site of national, State, or local significance (as determined by the Federal, State, or local officials having jurisdiction over the park, area, refuge, or site) only if: a) There is no prudent and feasible alternative to using that land; and b) The program or project includes all possible planning to minimize harm to the park, recreation area, wildlife and waterfowl refuge, or historic site resulting from the use.

Rivers and Harbors Act of 1899

The Rivers and Harbors Act prohibits the obstruction or alteration of any navigable water of the United States. The Act requires authorization from the USACE for any excavation or deposition of materials into these waters or for any work that could affect the course, location, condition, or capacity of rivers or harbors.

STATE

Fish and Game Code §2050-2097 - California Endangered Species Act

The California Endangered Species Act (CESA) protects certain plant and animal species when they are of special ecological, educational, historical, recreational, aesthetic, economic, and scientific value to the people of the State. CESA established that it is State policy to conserve, protect, restore, and enhance endangered species and their habitats.

CESA was expanded upon the original Native Plant Protection Act and enhanced legal protection for plants. To be consistent with Federal regulations, CESA created the categories of "threatened" and "endangered" species. It converted all "rare" animals into the Act as threatened species, but did not do so for rare plants. Thus, there are three listing categories for plants in California: rare, threatened, and endangered. Under State law, plant and animal species may be formally designated by official listing by the California Fish and Game Commission.

Fish and Game Code §1900-1913 California Native Plant Protection Act

In 1977 the State Legislature passed the Native Plant Protection Act (NPPA) in recognition of rare and endangered plants of the State. The intent of the law was to preserve, protect, and enhance endangered plants. The NPPA gave the California Fish and Game Commission the power to designate native plants as endangered or rare, and to require permits for collecting, transporting, or selling such plants. The NPPA includes provisions that prohibit the taking of plants designated as "rare" from the wild, and a salvage mandate for landowners, which requires notification of the CDFW 10 days in advance of approving a building site.

Fish and Game Code §3503, 3503.5, 3800 - Predatory Birds

Under the California Fish and Game Code, all predatory birds in the order Falconiformes or Strigiformes in California, generally called "raptors," are protected. The law indicates that it is unlawful to take, possess, or destroy the nest or eggs of any such bird unless it is in accordance with the code. Any activity that would cause a nest to be abandoned or cause a reduction or loss in a reproductive effort is considered a take. This generally includes construction activities.

Fish and Game Code §1601-1603 – Streambed Alteration

Under the California Fish and Game Code, CDFW has jurisdiction over any proposed activities that would divert or obstruct the natural flow or change the bed, channel, or bank of any lake or stream. Private landowners or project proponents must obtain a "Streambed Alteration Agreement" from CDFW prior to any alteration of a lake bed, stream channel, or their banks. Through this agreement,

the CDFW may impose conditions to limit and fully mitigate impacts on fish and wildlife resources. These agreements are usually initiated through the local CDFW warden and will specify timing and construction conditions, including any mitigation necessary to protect fish and wildlife from impacts of the work.

Public Resources Code § 21000 - California Environmental Quality Act

CEQA identifies that a species that is not listed on the Federal or State endangered species list may be considered rare or endangered if the species meets certain criteria. Under CEQA public agencies must determine if a project would adversely affect a species that is not protected by FESA or CESA. Species that are not listed under FESA or CESA, but are otherwise eligible for listing (i.e., candidate or proposed) may be protected by the local government until the opportunity to list the species arises for the responsible agency.

Species that may be considered for review are included on a list of “Species of Special Concern,” developed by the CDFW. Additionally, the California Native Plant Society (CNPS) maintains a list of plant species native to California that have low numbers, limited distribution, or are otherwise threatened with extinction. This information is published in the Inventory of Rare and Endangered Vascular Plants of California. List 1A contains plants that are believed to be extinct. List 1B contains plants that are rare, threatened, or endangered in California and elsewhere. List 2 contains plants that are rare, threatened, or endangered in California, but more numerous elsewhere. List 3 contains plants where additional information is needed. List 4 contains plants with a limited distribution.

Public Resources Code § 21083.4 - Oak Woodlands Conservation

In 2004, the California legislature enacted SB 1334, which added oak woodland conservation regulations to the Public Resources Code. This new law requires a county to determine whether a project, within its jurisdiction, may result in a conversion of oak woodlands that will have a significant effect on the environment. If a county determines that there may be a significant effect to oak woodlands, the county must require oak woodland mitigation alternatives to mitigate the significant effect of the conversion of oak woodlands. Such mitigation alternatives include: conservation through the use of conservation easements; planting and maintaining an appropriate number of replacement trees; contribution of funds to the Oak Woodlands Conservation Fund for the purpose of purchasing oak woodlands conservation easements; and/or other mitigation measures developed by the county.

California Oak Woodland Conservation Act

The California Legislature passed Assembly Bill 242, known as the California Oak Woodland Conservation Act, in 2001 as a result of widespread changes in land use patterns across the landscape that were fragmenting oak woodland character over extensive areas. The Act created the California Oak Woodland Conservation Program within the Wildlife Conservation Board. The legislation provides funding and incentives to ensure the future viability of California’s oak woodland resources by maintaining large scale land holdings or smaller multiple holdings that are not divided into fragmented, nonfunctioning biological units. The Act acknowledged that the conservation of oak woodlands enhances the natural scenic beauty for residents and visitors, increases real property

values, promotes ecological balance, provides habitat for over 300 wildlife species, moderates temperature extremes, reduces soil erosion, sustains water quality, and aids with nutrient cycling, all of which affect and improve the health, safety, and general welfare of the residents of the State.

California Wetlands Conservation Policy

In August 1993, the Governor announced the "California Wetlands Conservation Policy." The goals of the policy are to establish a framework and strategy that will:

- Ensure no overall net loss and to achieve a long-term net gain in the quantity, quality, and permanence of wetland acreage and values in California in a manner that fosters creativity, stewardship, and respect for private property.
- Reduce procedural complexity in the administration of State and Federal wetland conservation programs.
- Encourage partnerships to make landowner incentive programs and cooperative planning efforts the primary focus of wetland conservation and restoration.

The Governor also signed Executive Order W-59-93, which incorporates the goals and objectives contained in the new policy and directs the Resources Agency to establish an Interagency Task Force to direct and coordinate administration and implementation of the policy.

Natural Community Conservation Planning Act

The Natural Community Conservation Planning Act provides long-term protection of species and habitats through regional, multi-species planning before the special measures of the CESA become necessary.

Porter-Cologne Water Quality Control Act

The Porter-Cologne Water Quality Control Act authorizes the SWRCB to regulate state water quality and protect beneficial uses.

LOCAL

Local Conservation Easements

A conservation easement is a legal agreement between a landowner and a non-profit organization or government agency that limits certain uses of the land covered by the easement in order to protect its conservation values. It allows the landowner to continue to own and use the land and to sell it or pass it on to heirs. Each easement is individually negotiated and only certain rights to the land are purchased or donated. For example, the landowner might give up the right to build additional structures, while retaining the right to ranch or grow crops. Future owners are also bound by the easement's terms. An easement may apply to just a portion of the property, and need not require public access. If an easement is donated and it benefits the public by permanently protecting important conservation resources it may qualify as a tax-deductible charitable donation. Conservation easements can be useful for passing land on to the next generation. By removing the land's development potential, the easement lowers its market value, which in turn lowers estate

tax. The landowner continues to pay property taxes that are usually assessed at a similar rate to properties protected under the Williamson Act.

3.4.3 IMPACTS AND MITIGATION MEASURES

THRESHOLDS OF SIGNIFICANCE

Consistent with Appendix G of the CEQA Guidelines, the proposed project will have a significant impact on biological resources if it will:

- Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service;
- 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 California Department of Fish and Game or US Fish and Wildlife Service;
- Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means;
- Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites;
- Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance; or
- Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

IMPACTS AND MITIGATION

Impact 3.4-1: General Plan implementation could have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service (Less than Significant)

Approval of the General Plan would not directly approve or entitle any development or infrastructure projects. However, implementation of the General Plan and Land Use Map would allow and facilitate future development in Glenn County, which could result in adverse impacts to special-status plant and wildlife species, as well as sensitive natural habitat or wildlife movement corridors.

SPECIAL STATUS PLANT SPECIES

The CNDDDB search revealed documented occurrences of 38 special status plant species within Glenn County. Table 3.4-2 provides a list of special-status plant species that are documented within the search area of Glenn County, and current protective status. Figure 3.4-2 illustrates the special status species located within the search area.

Subsequent development under the proposed General Plan could result in the direct loss of habitat areas associated with these special status plant species, since suitable habitat for these species does occur in the region. Additionally, indirect impacts to special status plant species could occur with implementation of the General Plan. Indirect impacts could include habitat degradation as a result of impacts to water quality.

Special status plant species receive protection from various Federal and State laws and regulations, including FESA and CESA. These regulations generally prohibit the taking of the plant species without a special permit. Additionally, the proposed General Plan includes numerous policies and actions intended to reduce or avoid impacts to special status plant species. These policies and actions are listed below.

SPECIAL STATUS ANIMAL SPECIES

The search revealed documented occurrences of 35 special status animal species within the region of Planning Area. This includes eight invertebrates, four amphibians/reptiles, 13 birds, 1 fish, and 9 mammals. Table 3.4-3 provides a list of the special-status animal species that are documented within the region of the Planning Area, their habitat, and current protective status. Figures 3.4-2 illustrate the special status species located within the region of the Planning Area.

While most new development in Glenn County that would occur under the proposed General Plan would occur in areas that have been previously developed, subsequent development under the proposed General Plan could result in the direct loss of habitat areas associated with these special status animal species, since suitable habitat for these species does occur in the region, and may occur on future development project sites within Glenn County. Additionally, indirect impacts to special status animal species could occur with implementation of the General Plan. Indirect impacts could include habitat degradation as a result of impacts to water quality, increased human presence, and the loss of foraging habitat.

Special status animal species receive protection from various Federal and State laws and regulations, including FESA and CESA. These regulations generally prohibit the taking of a species or direct impact to foraging and breeding habitat without a special permit. Additionally, the proposed General Plan includes numerous policies and actions intended to reduce or avoid impacts to special status animal species. These policies and actions are listed below.

CONCLUSION

Construction and maintenance activities associated with future development projects under the proposed General Plan could result in the direct and indirect loss or indirect disturbance of special

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status plant or animal species or their habitats that are known to occur, or have potential to occur, in the region. Impacts to special status species or their habitat could result in a substantial reduction in local population size, lowered reproductive success, or habitat fragmentation. Impacts on special status species associated with individual subsequent projects could include:

- increased mortality caused by higher numbers of automobiles in new areas of development;
- direct mortality from the collapse of underground burrows, resulting from soil compaction;
- direct mortality resulting from the movement of equipment and vehicles through construction areas;
- direct mortality resulting from removal of trees with active nests;
- direct mortality or loss of suitable habitat resulting from the trimming or removal of obligate host plants;
- direct mortality resulting from fill of wetlands features;
- loss of breeding and foraging habitat resulting from the filling of seasonal or perennial wetlands;
- loss of breeding, foraging, and refuge habitat resulting from the permanent removal of riparian vegetation;
- loss of suitable habitat for vernal pool invertebrates resulting from the destruction or degradation of vernal pools or seasonal wetlands;
- abandoned eggs or young and subsequent nest failure for special status nesting birds, including raptors, and other non-special status migratory birds resulting from construction-related noises;
- loss or disturbance of rookeries and other colonial nests;
- loss of suitable foraging habitat for special status raptor species;
- loss of migration corridors resulting from the construction of permanent structures or features; and
- impacts to fisheries/species associated with waterways.

However, implementation of the policies and actions listed below would assist in minimizing the impact to a less than significant level. Subsequent development projects will be required to comply with the General Plan and adopted Federal, State, and local regulations for the protection of special status plants and animals, including habitat. Glenn County has prepared the General Plan to include numerous policies and actions intended to protect special status plants and animals, including habitat, from adverse effects associated with future development and improvement projects.

While future development has the potential to result in impacts to protected special status plants and animals, including habitat, the implementation of the policies and action listed below, as well as Federal and State regulations, would result in a **less than significant** impact to special status plants and animals, including habitat.

GENERAL PLAN POLICIES AND ACTIONS THAT MINIMIZE POTENTIAL IMPACTS

CONSERVATION AND OPEN SPACE ELEMENT POLICIES

COS 3-1: Preserve natural riparian habitats throughout the planning area, and specifically along Stony Creek, the Sacramento River, and Butte Creek.

COS 3-2: Recognize that retention of natural areas is important to maintaining adequate populations of wildlife that support recreation and hunting, open space, economic and environmental objectives.

COS 3-3: Support programs that expand hunting and outdoor educational opportunities in Glenn County, including programs aimed at beneficial agricultural practices, land conservation, and supporting water quality objectives.

COS 3-4: Coordinate with State and Federal agencies, private landowners and preservation and conservation groups in habitat preservation and protection of rare, endangered, threatened and special concern species, to ensure consistency in efforts and to encourage joint planning and development of areas to be preserved.

COS 3-5: Recognize the Sacramento River corridor, the Sacramento National Wildlife Refuge, migratory deer herd areas, naturally occurring wetlands, and stream courses such as Butte and Stony Creeks as areas of significant biological importance.

COS 3-6: Direct development away from naturally occurring wetlands and other areas of sensitive and critical habitat throughout the County Planning Area.

COS 3-7: Preserve and enhance biological communities that contribute to the region's biodiversity including, but not limited to, grasslands, freshwater marshes, wetlands, vernal pools, riparian areas, aquatic habitat, oak woodlands, and agricultural lands.

COS 3-8: Focus conservation efforts on high priority conservation areas that contain suitable habitat for endangered, threatened, migratory, or special-status species and that can be managed with minimal interference with nearby urban land uses.

COS 3-9: Conserve existing native vegetation where possible and integrate regionally native plant species into development and infrastructure projects where appropriate.

COS 3-10: Discourage the removal of large, mature, native trees that provide wildlife habitat, visual screening, or contribute to the visual and biological quality of the environment.

COS 3-11: Advocate full Federal funding of the Federal Refuge Revenue Sharing Act.

COS 3-12: Encourage and support oak tree preservation and retention in subdivisions and other development projects.

CONSERVATION AND OPEN SPACE ELEMENT ACTIONS

COS-3a: Coordinate with wildlife agencies, the Army Corps of Engineers, and the State Lands Commission during review of development projects, permits and applications.

3.4 BIOLOGICAL RESOURCES

COS-3b: Review development project proposals, infrastructure projects, long-range planning projects, and other projects that may potentially impact special-status species and sensitive resources to determine whether significant adverse impacts will occur. Where adverse impacts are identified, develop appropriate mitigation measures, in conformance with General Plan policies and relevant State and Federal laws, to reduce or avoid impacts to the greatest extent feasible.

COS-3c: Where sensitive biological habitats have been identified on or immediately adjacent to a project site, the project shall include appropriate mitigation measures identified by a qualified biologist, which may include, but are not limited to the following:

- *Pre-construction surveys for species listed under the State or Federal Endangered Species Acts, or species identified as special-status by the resource agencies, shall be conducted by a qualified biologist;*
- *Construction barrier fencing shall be installed around sensitive resources and areas identified for avoidance or protection; and*
- *Employees working on the project site shall be trained by a qualified biologist to identify and avoid protected species and habitat*

COS-3d: Make available a list of plants and trees native to the region that are suitable for use in landscaping, consistent with the requirements of California's Model Water Efficient Landscape Ordinance (MWELO). The plant and tree species should be drought tolerant, and consideration should be given to the suitability of the plant and tree species for use as habitat to native animals, birds, and insects.

Impact 3.4-2: General Plan implementation could 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 California Department of Fish and Wildlife or U.S. Fish and Wildlife Service (Less than Significant)

The CDFW considers sensitive natural communities to have significant biotic value, with species of plants and animals unique to each community. The CNDDDB search revealed seven sensitive natural communities within the search area. The sensitive natural communities within the search area include the aquatic communities of the Coastal and Valley Freshwater Marsh, Great Valley Cottonwood Riparian Forest, Great Valley Mixed Riparian Forest, The Great Valley Oak Riparian Forest, Great Valley Willow Scrub, as well as Valley Needlegrass Grassland. All seven of these community types were once more widely distributed throughout California, but have been modified or destroyed by grazing, cultivation, and urban development. Since the remaining examples of these sensitive natural communities are under continuing threat from future development, CDFW considers them "highest inventory priorities" for future conservation.

While not always documented as a sensitive natural community in the CNDDDB, streams, rivers, wet meadows, and vernal pools are of high concern because they provide unique aquatic habitat for many endemic species, including special status plants, birds, invertebrates, and amphibians. Glenn County contains numerous aquatic habitats that qualify as sensitive habitat. The following aquatic

resources are found in the Planning Area: Cottonwood Creek, Elder Creek, Thomes Creek, Sehorn creek, Stony Creek, Willow Creek, Logan Creek, Cortina Creek, Sand Creek, Battle Creek, Paynes Creek, Antelope Creek, Mill Creek, Deer Creek, Pine Creek, Big Chico Creek, Butte Creek, and Little Dry Creek.

The proposed project is a planning document that does not itself approve any specific physical changes to the to the environment, adoption of the proposed project would not directly impact the environment. However, the project could have an indirect change on the physical environment through subsequently approved projects that are consistent with the buildout that is contemplated in the General Plan. The implementation of an individual project would require a detailed and site-specific review of the site to determine the presence or absence of riparian habitat or natural sensitive communities. If riparian habitat or natural sensitive communities are present and disturbance is required, Federal and State laws require measures to reduce, avoid, or compensate for impacts to these resources. The requirements of these Federal and State laws are implemented through the permit process.

This potential impact would be minimized through the implementation of the policies and actions listed below. Subsequent development projects will be required to comply with the General Plan and adopted Federal, State, and local regulations for the protection of sensitive natural communities, including riparian habitat. Glenn County has prepared the General Plan to include numerous policies and actions intended to protect sensitive natural communities, including riparian habitat, from adverse effects associated with future development and improvement projects. While future development has the potential to result in impacts to protected habitats, the implementation of the General Plan policies and action listed below, as well as Federal and State regulations, would result in a **less than significant** impact.

GENERAL PLAN POLICIES AND ACTIONS THAT MINIMIZE POTENTIAL IMPACTS

CONSERVATION AND OPEN SPACE ELEMENT POLICIES

COS 3-1: Preserve natural riparian habitats throughout the planning area, and specifically along Stony Creek, the Sacramento River, and Butte Creek.

COS 3-2: Recognize that retention of natural areas is important to maintaining adequate populations of wildlife that support recreation and hunting, open space, economic and environmental objectives.

COS 3-3: Support programs that expand hunting and outdoor educational opportunities in Glenn County, including programs aimed at beneficial agricultural practices, land conservation, and supporting water quality objectives.

COS 3-4: Coordinate with State and Federal agencies, private landowners and preservation and conservation groups in habitat preservation and protection of rare, endangered, threatened and special concern species, to ensure consistency in efforts and to encourage joint planning and development of areas to be preserved.

3.4 BIOLOGICAL RESOURCES

COS 3-5: Recognize the Sacramento River corridor, the Sacramento National Wildlife Refuge, migratory deer herd areas, naturally occurring wetlands, and stream courses such as Butte and Stony Creeks as areas of significant biological importance.

COS 3-6: Direct development away from naturally occurring wetlands and other areas of sensitive and critical habitat throughout the County Planning Area.

COS 3-7: Preserve and enhance biological communities that contribute to the region's biodiversity including, but not limited to, grasslands, freshwater marshes, wetlands, vernal pools, riparian areas, aquatic habitat, oak woodlands, and agricultural lands.

COS 3-8: Focus conservation efforts on high priority conservation areas that contain suitable habitat for endangered, threatened, migratory, or special-status species and that can be managed with minimal interference with nearby urban land uses.

COS 3-9: Conserve existing native vegetation where possible and integrate regionally native plant species into development and infrastructure projects where appropriate.

COS 3-10: Discourage the removal of large, mature, native trees that provide wildlife habitat, visual screening, or contribute to the visual and biological quality of the environment.

COS 3-11: Advocate full Federal funding of the Federal Refuge Revenue Sharing Act.

COS 3-12: Encourage and support oak tree preservation and retention in subdivisions and other development projects.

CONSERVATION AND OPEN SPACE ELEMENT ACTIONS

COS-3a: Coordinate with wildlife agencies, the Army Corps of Engineers, and the State Lands Commission during review of development projects, permits and applications.

COS-3b: Review development project proposals, infrastructure projects, long-range planning projects, and other projects that may potentially impact special-status species and sensitive resources to determine whether significant adverse impacts will occur. Where adverse impacts are identified, develop appropriate mitigation measures, in conformance with General Plan policies and relevant State and Federal laws, to reduce or avoid impacts to the greatest extent feasible.

COS-3c: Where sensitive biological habitats have been identified on or immediately adjacent to a project site, the project shall include appropriate mitigation measures identified by a qualified biologist, which may include, but are not limited to the following:

- *Pre-construction surveys for species listed under the State or Federal Endangered Species Acts, or species identified as special-status by the resource agencies, shall be conducted by a qualified biologist;*
- *Construction barrier fencing shall be installed around sensitive resources and areas identified for avoidance or protection; and*
- *Employees working on the project site shall be trained by a qualified biologist to identify and avoid protected species and habitat*

COS-3d: Make available a list of plants and trees native to the region that are suitable for use in landscaping, consistent with the requirements of California's Model Water Efficient Landscape Ordinance (MWELO). The plant and tree species should be drought tolerant, and consideration should be given to the suitability of the plant and tree species for use as habitat to native animals, birds, and insects.

Impact 3.4-3: General Plan implementation could have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means (Less than Significant)

Streams, rivers, wet meadows, and vernal pools (wetlands and jurisdictional waters) are of high concern because they provide unique aquatic habitat (perennial and ephemeral) for many endemic species, including special status plants, birds, invertebrates, and amphibians. These aquatic habitats oftentimes qualify as protected wetlands or jurisdictional waters and are protected from disturbance through the CWA.

As noted in Impact 3.4-2, the following aquatic resources are found in the Planning Area: Cottonwood Creek, Elder Creek, Thomes Creek, Sehorn creek, Stony Creek, Willow Creek, Logan Creek, Cortina Creek, Sand Creek, Battle Creek, Paynes Creek, Antelope Creek, Mill Creek, Deer Creek, Pine Creek, Big Chico Creek, Butte Creek, and Little Dry Creek. According to the Fire and Resource Assessment Program dataset, wetlands are only found in the south portion of the Planning Area around the Sacramento National Wildlife Refuge along Interstate 5.

Section 404 of the CWA requires any project that involves disturbance to a wetland or water of the U.S. to obtain a permit that authorizes the disturbance. If a wetland or jurisdictional water is determined to be present, then a permit must be obtained from the USACE to authorize a disturbance to the wetland. Although subsequent projects may disturb protected wetlands and/or jurisdictional waters, the regulatory process that is established through Section 404 of the CWA ensures that there is "no net loss" of wetlands or jurisdictional waters. If, through the design process, it is determined that a future development project cannot avoid a wetland or jurisdictional water, then the USACE would require that there be an equal amount of wetland created elsewhere to mitigate any loss of wetland.

Construction activities associated with individual future projects could result in the disturbance or loss of waters of the United States. This includes perennial and intermittent drainages; unnamed drainages; vernal pools; freshwater marshes; and other types of seasonal and perennial wetland communities. Wetlands and other waters of the United States could be affected through direct removal, filling, hydrological interruption (including dewatering), alteration of bed and bank, and other construction-related activities.

The proposed project is a planning document that does not itself approve any specific physical changes to the to the environment, adoption of the proposed project would not directly impact the environment. However, the project could have an indirect change on the physical environment through subsequently approved projects that are consistent with the buildout that is contemplated

3.4 BIOLOGICAL RESOURCES

in the General Plan. The implementation of an individual project would require a detailed and site-specific review of the site to determine the presence or absence of water features. If water features are present and disturbance is required, Federal and State laws require measures to reduce, avoid, or compensate for impacts to these resources. The requirements of these Federal and State laws are implemented through the permit process.

Subsequent development projects will be required to comply with the General Plan and adopted Federal, State, and local regulations for the protection of sensitive natural communities, including protected wetlands. Glenn County has prepared the General Plan to include numerous policies and actions intended to protect wetlands and waters of the U.S. from adverse effects associated with future development and improvement projects. While future development has the potential to result in impacts to protected water features, the implementation of the General Plan policies and actions listed below, as well as Federal and State regulations, would result in a **less than significant** impact.

GENERAL PLAN POLICIES AND ACTIONS THAT MINIMIZE POTENTIAL IMPACTS

CONSERVATION AND OPEN SPACE ELEMENT POLICIES

COS 3-1: Preserve natural riparian habitats throughout the planning area, and specifically along Stony Creek, the Sacramento River, and Butte Creek.

COS 3-2: Recognize that retention of natural areas is important to maintaining adequate populations of wildlife that support recreation and hunting, open space, economic and environmental objectives.

COS 3-3: Support programs that expand hunting and outdoor educational opportunities in Glenn County, including programs aimed at beneficial agricultural practices, land conservation, and supporting water quality objectives.

COS 3-4: Coordinate with State and Federal agencies, private landowners and preservation and conservation groups in habitat preservation and protection of rare, endangered, threatened and special concern species, to ensure consistency in efforts and to encourage joint planning and development of areas to be preserved.

COS 3-5: Recognize the Sacramento River corridor, the Sacramento National Wildlife Refuge, migratory deer herd areas, naturally occurring wetlands, and stream courses such as Butte and Stony Creeks as areas of significant biological importance.

COS 3-6: Direct development away from naturally occurring wetlands and other areas of sensitive and critical habitat throughout the County Planning Area.

COS 3-7: Preserve and enhance biological communities that contribute to the region's biodiversity including, but not limited to, grasslands, freshwater marshes, wetlands, vernal pools, riparian areas, aquatic habitat, oak woodlands, and agricultural lands.

COS 3-8: Focus conservation efforts on high priority conservation areas that contain suitable habitat for endangered, threatened, migratory, or special-status species and that can be managed with minimal interference with nearby urban land uses.

COS 3-9: Conserve existing native vegetation where possible and integrate regionally native plant species into development and infrastructure projects where appropriate.

COS 3-10: Discourage the removal of large, mature, native trees that provide wildlife habitat, visual screening, or contribute to the visual and biological quality of the environment.

COS 3-11: Advocate full Federal funding of the Federal Refuge Revenue Sharing Act.

COS 3-12: Encourage and support oak tree preservation and retention in subdivisions and other development projects.

CONSERVATION AND OPEN SPACE ELEMENT ACTIONS

COS-3a: Coordinate with wildlife agencies, the Army Corps of Engineers, and the State Lands Commission during review of development projects, permits and applications.

COS-3b: Review development project proposals, infrastructure projects, long-range planning projects, and other projects that may potentially impact special-status species and sensitive resources to determine whether significant adverse impacts will occur. Where adverse impacts are identified, develop appropriate mitigation measures, in conformance with General Plan policies and relevant State and Federal laws, to reduce or avoid impacts to the greatest extent feasible.

COS-3c: Where sensitive biological habitats have been identified on or immediately adjacent to a project site, the project shall include appropriate mitigation measures identified by a qualified biologist, which may include, but are not limited to the following:

- *Pre-construction surveys for species listed under the State or Federal Endangered Species Acts, or species identified as special-status by the resource agencies, shall be conducted by a qualified biologist;*
- *Construction barrier fencing shall be installed around sensitive resources and areas identified for avoidance or protection; and*
- *Employees working on the project site shall be trained by a qualified biologist to identify and avoid protected species and habitat*

COS-3d: Make available a list of plants and trees native to the region that are suitable for use in landscaping, consistent with the requirements of California's Model Water Efficient Landscape Ordinance (MWELO). The plant and tree species should be drought tolerant, and consideration should be given to the suitability of the plant and tree species for use as habitat to native animals, birds, and insects.

Impact 3.4-4: General Plan implementation would not 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 (Less than Significant)

Habitat loss, fragmentation, and degradation resulting from land use changes or habitat conversion can alter the use and viability of wildlife movement corridors (i.e., linear habitats that naturally connect and provide passage between two or more otherwise disjunct larger habitats or habitat fragments). Wildlife habitat corridors maintain connectivity for daily movement, travel, mate-seeking, and migration; plant propagation; genetic interchange; population movement in response to environmental change or natural disaster; and recolonization of habitats subject to local extirpation or removal. The suitability of a habitat as a wildlife movement corridor is related to, among other factors, the habitat corridor's dimensions (length and width), topography, vegetation, exposure to human influence, and the species in question.

Species utilize movement corridors in several ways. "Passage species" are those species that use corridors as thru-ways between outlying habitats. The habitat requirements for passage species are generally less than those for corridor dwellers. Passage species use corridors for brief durations, such as for seasonal migrations or movement within a home range. As such, movement corridors do not necessarily have to meet any of the habitat requirements necessary for a passage species everyday survival. "Corridor dwellers" are those species that have limited dispersal capabilities – a category that includes most plants, insects, reptiles, amphibians, small mammals, and birds – and use corridors for a greater length of time.

Glenn County contains numerous aquatic habitats that may be used for movement of wildlife. As noted in Impact 3.4-2, the following aquatic resources are found in the Planning Area: Cottonwood Creek, Elder Creek, Thomes Creek, Sehorn creek, Stony Creek, Willow Creek, Logan Creek, Cortina Creek, Sand Creek, Battle Creek, Paynes Creek, Antelope Creek, Mill Creek, Deer Creek, Pine Creek, Big Chico Creek, Butte Creek, and Little Dry Creek.

Because the proposed project is a planning document and no specific development are proposed or would be approved as part of the General Plan update, no physical changes will occur to the environment. There is a reasonable chance that movement corridors could be impacted throughout the buildout of subsequent individual projects. The implementation of an individual project would require a detailed and site-specific review of the site to determine the presence or absence of movement corridors on a given project site. If movement corridors are present and disturbance is required, Federal and State laws require measures to reduce, avoid, or compensate for impacts to these resources. The requirements of these Federal and State laws are implemented through the permit process.

Subsequent development projects will be required to comply with the General Plan and adopted Federal, State, and local regulations for the protection of movement corridors. The County of Glenn has prepared the General Plan to include policies actions intended to protect movement corridors from adverse effects associated with future development and improvement projects. While future development has the potential to result in impacts to protected movement corridors, the implementation of the General Plan policies and action listed below, as well as Federal and State regulations, would result in a **less than significant** impact.

GENERAL PLAN POLICIES AND ACTIONS THAT MINIMIZE POTENTIAL IMPACTS

CONSERVATION AND OPEN SPACE ELEMENT POLICIES

COS 3-1: Preserve natural riparian habitats throughout the planning area, and specifically along Stony Creek, the Sacramento River, and Butte Creek.

COS 3-2: Recognize that retention of natural areas is important to maintaining adequate populations of wildlife that support recreation and hunting, open space, economic and environmental objectives.

COS 3-3: Support programs that expand hunting and outdoor educational opportunities in Glenn County, including programs aimed at beneficial agricultural practices, land conservation, and supporting water quality objectives.

COS 3-4: Coordinate with State and Federal agencies, private landowners and preservation and conservation groups in habitat preservation and protection of rare, endangered, threatened and special concern species, to ensure consistency in efforts and to encourage joint planning and development of areas to be preserved.

COS 3-5: Recognize the Sacramento River corridor, the Sacramento National Wildlife Refuge, migratory deer herd areas, naturally occurring wetlands, and stream courses such as Butte and Stony Creeks as areas of significant biological importance.

COS 3-6: Direct development away from naturally occurring wetlands and other areas of sensitive and critical habitat throughout the County Planning Area.

COS 3-7: Preserve and enhance biological communities that contribute to the region's biodiversity including, but not limited to, grasslands, freshwater marshes, wetlands, vernal pools, riparian areas, aquatic habitat, oak woodlands, and agricultural lands.

COS 3-8: Focus conservation efforts on high priority conservation areas that contain suitable habitat for endangered, threatened, migratory, or special-status species and that can be managed with minimal interference with nearby urban land uses.

COS 3-9: Conserve existing native vegetation where possible and integrate regionally native plant species into development and infrastructure projects where appropriate.

COS 3-10: Discourage the removal of large, mature, native trees that provide wildlife habitat, visual screening, or contribute to the visual and biological quality of the environment.

COS 3-11: Advocate full Federal funding of the Federal Refuge Revenue Sharing Act.

COS 3-12: Encourage and support oak tree preservation and retention in subdivisions and other development projects.

CONSERVATION AND OPEN SPACE ELEMENT ACTIONS

COS-3a: Coordinate with wildlife agencies, the Army Corps of Engineers, and the State Lands Commission during review of development projects, permits and applications.

3.4 BIOLOGICAL RESOURCES

COS-3b: Review development project proposals, infrastructure projects, long-range planning projects, and other projects that may potentially impact special-status species and sensitive resources to determine whether significant adverse impacts will occur. Where adverse impacts are identified, develop appropriate mitigation measures, in conformance with General Plan policies and relevant State and Federal laws, to reduce or avoid impacts to the greatest extent feasible.

COS-3c: Where sensitive biological habitats have been identified on or immediately adjacent to a project site, the project shall include appropriate mitigation measures identified by a qualified biologist, which may include, but are not limited to the following:

- *Pre-construction surveys for species listed under the State or Federal Endangered Species Acts, or species identified as special-status by the resource agencies, shall be conducted by a qualified biologist;*
- *Construction barrier fencing shall be installed around sensitive resources and areas identified for avoidance or protection; and*
- *Employees working on the project site shall be trained by a qualified biologist to identify and avoid protected species and habitat*

COS-3d: Make available a list of plants and trees native to the region that are suitable for use in landscaping, consistent with the requirements of California's Model Water Efficient Landscape Ordinance (MWELO). The plant and tree species should be drought tolerant, and consideration should be given to the suitability of the plant and tree species for use as habitat to native animals, birds, and insects.

Impact 3.4-5: The General Plan would not conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance (Less than Significant)

The proposed Project is a long-range planning document, in which local policies are established. The General Plan itself does not conflict with its own policies and has been drafted to be internally consistent (as required by state law). Subsequent development projects will be required to comply with the General Plan Update policies, as well as the County Code. Implementation of the policies and implementation measures listed throughout this chapter would be consistent with already established ordinances. This is a **less than significant** impact.

Impact 3.4-6: General Plan implementation would not conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or State Habitat Conservation Plan (Less than Significant)

Glenn County does not have a Habitat Conservation Plan or Natural Community Conservation Plan.

The CA Department of Fish and Wildlife, as part of the Resources Agency of the State of California implements the Sacramento River Wildlife Area Land Management Plan. The Sacramento River Wildlife Area (SRWA) is located in Colusa, Glenn, and Butte Counties and is comprised of 3,770 acres extending from one mile north of the City of Colusa to approximately three miles south of Woodson

Bridge near Corning CA. The management objectives are to preserve and restore riparian habitat, maintain and enhance habitat for special status species, and support scientific research and monitoring. Additional objectives are to provide opportunities for wildlife-related, low impact public recreational activities such as: fishing, hunting, hiking, wildlife observation, photography, interpretation and environmental education.

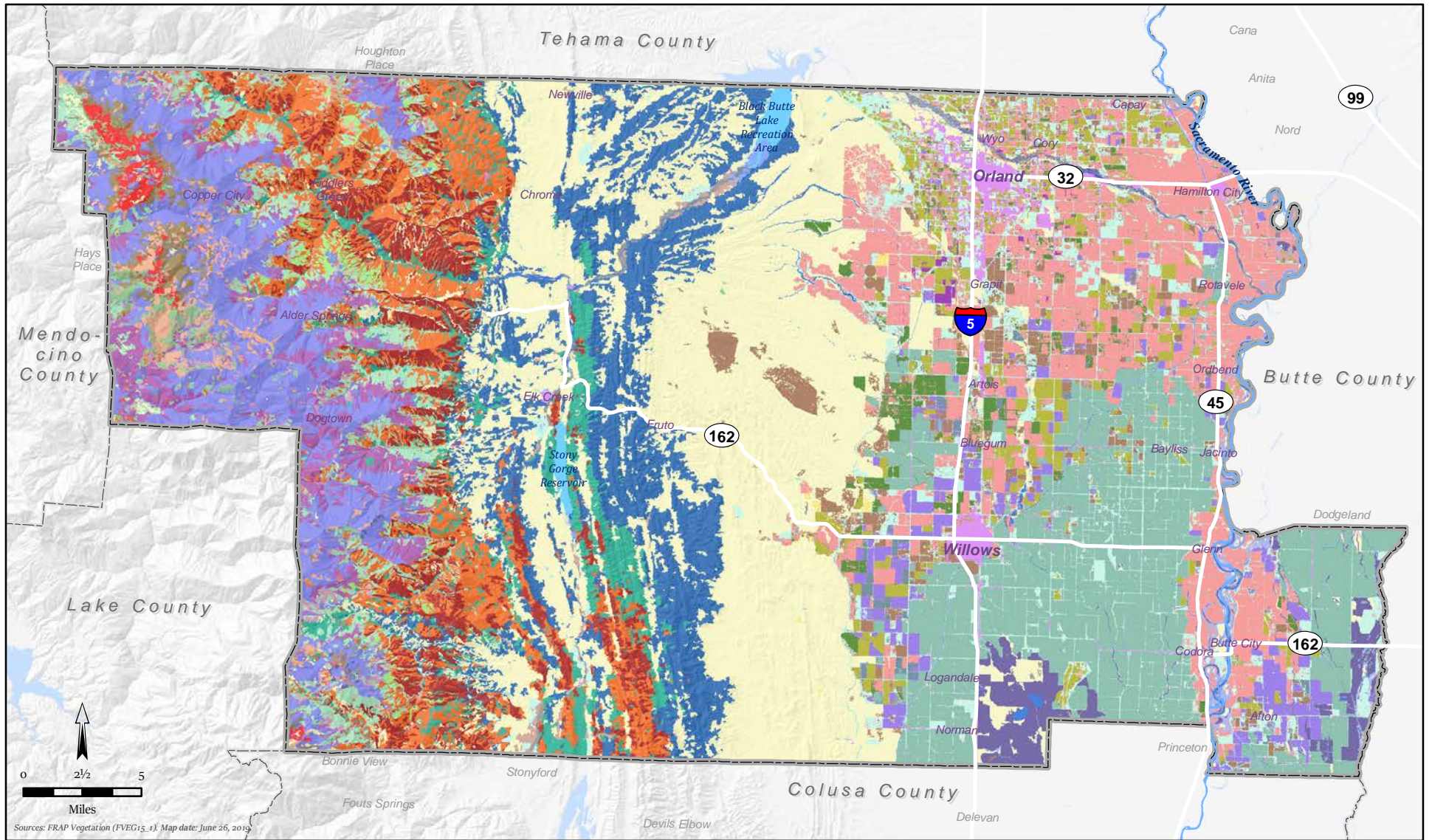
The General Plan supports the conservation of riparian resources. Specifically the General Plan includes Policy COS 3-1 which calls for the preservation of natural riparian habitats throughout the Planning Area, and specifically along the Sacramento River. Additionally, Policy COS 3-5 recognizes the Sacramento River corridor, the Sacramento National Wildlife Refuge area as areas of significant biological importance.

Additionally, the Sacramento Valley represents the single most important wintering area for the waterfowl along the Pacific Flyway. Migrating waterfowl rely upon this region of the state to rest and feed during their annual migration. In addition to the multiple species of waterfowl, raptors, and shorebirds that seasonally inhabit the region, these lands provide habitat for a number of other species who rely upon this area year-round. This habitat comprises an important part of the integrated water system in Northern California. The Sacramento Valley lies on the southerly end of the Pacific Flyway migratory route and is one the most prominent wintering sites for waterfowl in the world. Waterfowl migrate to the Sacramento Valley by the millions from as far away as Alaska, Canada, and Siberia. Sacramento Valley habitat supports approximately 44 percent of wintering waterfowl using the Pacific Flyway, attracting more than 1.5 million ducks and 750,000 geese to its seasonal marshes. The limited amount of natural wetlands in the area makes small-grain production fields (mostly rice) critical to the survivability of the large numbers of waterfowl wintering in California. Many water districts and companies in addition to providing water for the working agricultural landscapes and privately managed wetlands also provide water to federal wildlife refuges and state wildlife management areas. The habitat goals for the Pacific Flyway in the Central Valley are compiled in Central Valley Joint Venture Implementation Plan, which was published in 2006.

The General Plan supports conservation goals and waterfowl throughout the Planning Area. Specifically, Action COS-1a requires the County to work with local, regional, State, and Federal agencies to ensure that regional open space amenities remain publicly-accessible, well-maintained, and provide for essential habitat. Additionally Policy AG 4-1 recognizes the value of agricultural lands for countywide biodiversity, soil health, waterfowl habitat, recreation, watershed management, fire abatement, and for groundwater recharge, while Policy AG 5-7 precludes the practice of fallowing fields for the purpose of water export within conservation easements and habitat conservation lands.

Given that there is no adopted Habitat Conservation Plan or Natural Community Conservation Plan within the Planning Area, and that the General Plan supports the objectives of the Sacramento River Wildlife Area Land Management Plan, and Pacific Flyway objectives, implementation of the General Plan would have a **Less than Significant** impact relative to this topic.

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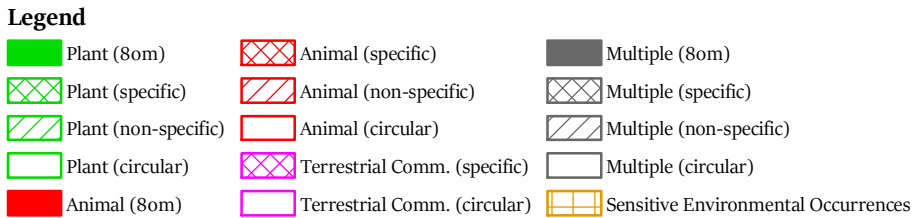
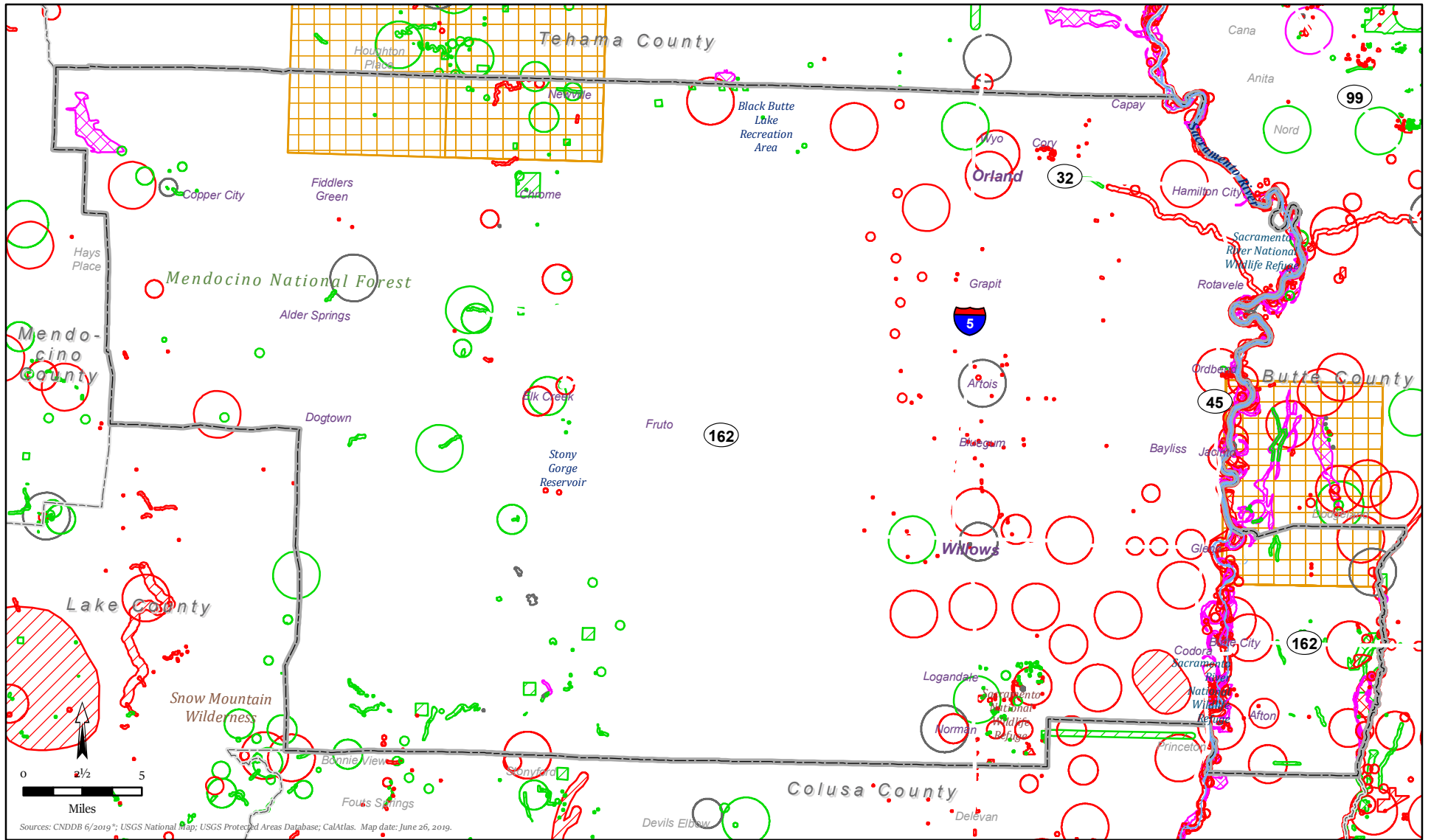
Legend

- | | | | | |
|----------------------------|------------------------|-------------------------------|--------------------------|--------------------------|
| Alpine-Dwarf Shrub | Coastal Scrub | Irrigated Grain Crops | Montane Hardwood | Riverine |
| Annual Grassland | Cropland | Irrigated Hayfield | Montane Hardwood-Conifer | Sagebrush |
| Barren | Deciduous Orchard | Irrigated Row and Field Crops | Montane Riparian | Urban |
| Blue Oak Woodland | Douglas Fir | Jeffrey Pine | Pasture | Valley Foothill Riparian |
| Blue Oak-Foothill Pine | Dryland Grain Crops | Klamath Mixed Conifer | Perennial Grassland | Valley Oak Woodland |
| Chamise-Redshank Chaparral | Eucalyptus | Lacustrine | Ponderosa Pine | Vineyard |
| Closed-Cone Pine-Cypress | Evergreen Orchard | Mixed Chaparral | Red Fir | Wet Meadow |
| Coastal Oak Woodland | Fresh Emergent Wetland | Montane Chaparral | Rice | White Fir |

COUNTY OF GLENN, CALIFORNIA

FIGURE 3.4-1. LAND COVER

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* Note: the occurrences shown on this map represent the known locations of the species listed here as of the date of this version. There may be additional occurrences or additional species within this area which have not been surveyed and/or mapped. Lack of information in the CNDDDB about a species or an area can never be used as proof that no special status species occur in an area.

COUNTY OF GLENN, CALIFORNIA

FIGURE 3.4-2. CALIFORNIA NATURAL DIVERSITY DATABASE

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Cultural resources are defined as buildings, sites, structures, or objects that may have historical, architectural, archaeological, cultural, or scientific importance. Tribal cultural resources include site feature, places, cultural landscapes, sacred places or objects, which is of cultural value to a Tribe. Preservation of the County's cultural heritage should be considered when planning for the future.

This section provides a background discussion of the prehistory, ethnology, historical period background, and cultural resources and tribal cultural resources found in Glenn County. This section is organized with an existing setting, regulatory setting, and impact analysis.

No comments were received during the NOP public review period relevant to cultural resources or tribal cultural resources.

KEY TERMS

The following key terms are used throughout this section to describe cultural and tribal resources and the framework that regulates them:

Archaeology. The study of historic or prehistoric peoples and their cultures by analysis of their artifacts and monuments.

Ethnography. The study of contemporary human cultures.

Complex. A patterned grouping of similar artifact assemblages from two or more sites, presumed to represent an archaeological culture.

Midden. A deposit marking a former habitation site and containing such materials as discarded artifacts, bone and shell fragments, food refuse, charcoal, ash, rock, human remains, structural remnants, and other cultural leavings.

3.5.1 ENVIRONMENTAL SETTING

PREHISTORY

Glenn County has not had large scale archeological excavations that would have provided a clear picture into the prehistoric period. The closest such excavation occurred just south of the Glenn County line. Archeology tells us that by at least 6,000 years ago, about 4,000 B.C., Native Americans were living along the Sacramento River in Colusa County and likely Glenn County too. Ten to twelve feet below the modern surface was a "buried midden" dated to 4020 B.C. that was discovered and dated, but not further investigated (White 2003a, 2003b). Midden is the remains of plants and animals, like a compost pile, usually with bits of artifacts too, left by a group who generally call the place home. Village sites have midden, temporary camps normally don't.

After 2,500 B.C., archeologists do have a record of life at this village with various artifacts recovered including stone points designed to be used with a spear-thrower (atlatl), fishing related items, bone and stone tools, and shell ornaments (Figure 10.4 in Rosenthal et al. 2007:154). By this time, archeologists feel this village site was occupied year-round (White 2003a, 2003b). Colusa County, and no doubt Glenn County as well, looks to have had its first 'town' about 4,500 years ago.

3.5 CULTURAL RESOURCES

At about 1,000 A.D., the bow and arrow were introduced into the area and new opportunities opened for the hunter. Fishing technology also continued to improve during this period, and, not surprisingly fish remains make up increasingly larger percentages of food remains found at river side villages from this period onward (Rosenthal et al. 2007:160). The collection of the local wild seed crop- supplementing the diet of acorn, a staple since about 500 B.C., also increased during this time. Over time, the size of certain types of seeds collected became larger, leading some to suggest that the foundations of horticulture were beginning to take root in California's Central Valley (Rosenthal 2007:159).

Populations at the villages along the river continued to expand, and by the time of first written records, a village with three or four thousand residents was not uncommon, particularly at a good fishing spot where weirs could be constructed.

ETHNOLOGY

The Wintu are the northernmost dialectical groups of the Wintun, whose territory roughly incorporates the western side of the Sacramento Valley from the Carquinez Straits north to include most of the upper Sacramento River drainage, the McCloud River, and the lower reaches of the Pit River. The Wintun, a collective name, were subdivided into three sub-groups with the Southern, Central, and the Northern dialects known respectively as Patwin, Nomlaki, and Wintu. The area surrounding Willows has been identified as belonging to the River Nomlaki (Goldschmidt 1978:341).

Although economic subsistence was heavily weighted toward the acorn, the staple of the diet, the rich riverine resources of the Sacramento River supplied a large variety of foodstuffs. Hunting of game and small mammals augmented the diet with protein. Seasonal procurement of vegetable foods and the hunting of game occurred throughout the territory held by villages.

Villages were usually situated along rivers and streams or close to springs where reliable water supplies allowed a semi-permanent occupation. Major villages were located along the riverbanks, with locations oriented to higher spots on the natural levees. Smaller villages tended to be along the tributary streams and near springs. Cultural resources surveys in the region have demonstrated that there was very heavy use of tributary streams and other areas at a distance from the main river, while early ethnographies had emphasized the concentration of population along the Sacramento.

HISTORIC PERIOD BACKGROUND

Glenn County, named for Dr. Hugh Glenn, was organized in 1891, from the northern half of Colusa County. The earlier history of the County is that of Colusa County settlement.

In the early 1840s, Maria Josefa Soto, later the wife of Dr. James Stokes of Monterey, received the Capay Land Grant from the Mexican government. In 1846, a man named Bryant built the first house on the land, and in 1848, after Marshall's gold discovery in Coloma and the resulting gold rush, purchased the 44,388-acre grant stretching along the west side of the Sacramento River. The land soon attracted more settlers including U.P. Monroe, Martin Reager, and John McIntosh (Rodgers 1891:81; Kyle 2002).

The old River Road ran along the west side of the Sacramento River between Colusa through present day Glenn County and Shasta. With up to 50 freight wagons a day leaving Colusa for the northern mines, a series of hospitality houses, aptly named Four-Mile house, or Fourteen-Mile house, depending on their distance north were set up to feed and settler both two- and four-legged travelers (Kyle 2002:48).

The stagecoach lines following the Old River Road route along the Sacramento River were expanded during the summer of 1872 to include new tri-weekly stagecoach runs from Colusa north to Newville and west towards Wilbur and Bartlett Springs (Rogers 1891:128). Competition between competing stage coach companies on the existing run between Colusa and Marysville had become so fierce by November of that year that the fare was only 25 cents and, "...no effort of horse-flesh spared by competing lines in endeavoring to arrive first at their home station" (Rogers 1891). By 1873, nine stage lines were operating out of Colusa (Rogers 1891).

At the base of the steep Coast Range, Elk Creek was established in the late 1860s as a trading center for the valleys drained by Stony Creek and its tributaries. The post office in the town opened in 1872, and the town became the stopping point for stages from Colusa to the southeast and Newville to the north. Elk Creek is the entrance to the Mendocino National Forest (Kyle 2002).

Monroe's Ranch, later Monroeville, became a popular stopping point along the Old River Road. The hotel also doubled as a courthouse built partially from the wreck of the steamer *California*, one of the first steamers to ascend the Sacramento River.

Colusa County had obvious advantages in terms of natural transportation routes. The Sacramento River was once a navigable waterway with steamships plying the river from the bay area up to Red Bluff. Water based transportation was the primary means of transporting goods cheaply when Colusa County was first settled in the early 1850s. Up until the early 1870s, steamships regularly ran as far north as Red Bluff, but then the railroad came, boats quit going higher up than Chico Landing, except during unusually high water or on special occasions.

1876 was a pivotal year for Colusa (later Glenn County) when the "Northern Railway," later Southern Pacific, tracks were completed, and the communities of Willows and Orland prospered. By 1926, the road paralleling the Southern Pacific railroad was officially designated as Highway 99W. Beginning at Sacramento at the 'I' Street Bridge, Highway 99W followed the west side of the river up to the valley to eventually meet and merge with the Highway 99E branch at Red Bluff. In the early 1960s, construction began on a new interstate highway system, Interstate 5, and when "I-5" was completed, Highway 99W was relegated to a frontage road.

In 1887, California passed the Wright Irrigation Act that authorized and regulated the formation of irrigation districts. Wasting no time, on November 22, 1887 the Central Irrigation District was formed, incorporating 156,500 acres (McComish and Lambert 1918). Upon formation of the district, its members, by a vote of five to one, approved the issuance of \$750,000 in bonds for the construction of the necessary canals and irrigation works. Using \$290,000 of these funds, the district hired construction crews who began working on the canal in October, 1889. The canal, as proposed, covered the lands from its source north of Hamilton City to about midway between Willows and Arbuckle, where its outlet or discharge would into Willow Creek. The original estimates also called

3.5 CULTURAL RESOURCES

for a main canal with a depth of sixty-five feet and a length of thirty miles, tapering to a depth of twenty feet for the remainder of the canal. Lateral canals and sub-canals were also included in this original estimate (McComish and Lambert 1918).

By 1918, farmers had organized the Glenn-Colusa Irrigation District that provided water from Hamilton City south to near Willows (Eubank 1948).

Hamilton City is the newest town in Glenn County and is considered the legitimate descendant of two pioneer towns —Monroeville, about five miles south, and St. John. St. John, two miles north of Monroeville, was founded in 1856 on the banks of Stony Creek. St. John had a general merchandise store, warehouses and barns, housing freighters headed to Shasta and Weaverville. St. John began to fade, as Monroeville had done when business shifted to St. John. Hamilton City was founded in 1905 as the site of a large sugar beet factory and named for the president of the sugar company (Kyle 2002).

Agriculture has always been the primary economic activity of Glenn County. Other industries include chromite, mined briefly in this area informally during World War I and more formally during World War II. The Black Diamond Mine and Gray Eagle Mine operated between 1942-44 until supplies were exhausted. The Beehive Bend gas fields were discovered in the 1930s, about five miles east of Willows, the largest in northern California. The wells are scattered over a large area (Kyle 2002).

CULTURAL RESOURCES IN GENERAL PLAN STUDY AREA

There are 736 cultural resources have been identified within the County of Glenn General Plan Study Area, according to files maintained by the Northeast Information Center (NEIC) of the California Historical Resources Information System (CHRIS). The 736 recorded cultural resources span both the prehistoric and historic periods. Prehistoric period resources included numerous permanent and temporary Native American occupation areas (villages and campsites), stone tool quarries, and stone artifact scatters and isolated artifacts. Historic period resources span early cabin and homestead sites, bridges, mines, irrigation canals, single family residences and settlements.

The Gianella Bridge, once located at Hamilton City at the Sacramento River and replaced with a modern bridge in 1987, is the only property or district currently listed on the National Register of Historic Places or California Register of Historic Places for the County of Glenn General Plan Study Area.

The County of Glenn General Plan Study Area has one California Historical Landmark (CHL), #831, the site of the First Posted Water Notice by Will S. Green, located at Cutler and First Avenue, Hamilton City.

NATIVE AMERICAN CONSULTATION

Letters were sent to: the Colusi County Historical Society; The Native American Heritage Commission; Glenda Nelson, Chairperson, Estom Yumeka Maidu Tribe of the Enterprise Rancheria; Ronald Kirk, Chairperson, Grindstone Rancheria of Wintun-Wailaki; Jessica Lopez, Chairperson, KonKow Valley Band of Maidu; Dennis Ramirez, Chairperson, Mechoopda Indian Tribe; Guy Taylor, Mooretown Rancheria of Maidu Indians; Benjamin Clark, Chairperson, Mooretown Rancheria of

Maidu Indians; and, Andrew Alejandro, Chairperson, Paskenta Band of Nomlaki Indians. The Native American Heritage Commission responded with a letter dated March 13, 2019 which stated the results were positive and to contact the Grindstone Rancheria.

3.5.2 REGULATORY SETTING

FEDERAL REGULATIONS

National Historic Preservation Act

Most regulations at the Federal level stem from the National Environmental Policy Act (NEPA) and historic preservation legislation such as the National Historic Preservation Act (NHPA) of 1966, as amended. NHPA established guidelines to "preserve important historic, cultural, and natural aspects of our national heritage, and to maintain, wherever possible, an environment that supports diversity and a variety of individual choice." The NHPA includes regulations specifically for Federal land-holding agencies, but also includes regulations (Section 106) which pertain to all projects that are funded, permitted, or approved by any Federal agency and which have the potential to affect cultural resources. All projects that are subject to NEPA are also subject to compliance with Section 106 of the NHPA and NEPA requirements concerning cultural resources. Provisions of NHPA establish a National Register of Historic Places (The National Register) maintained by the National Park Service, the Advisory Councils on Historic Preservation, State Historic Preservation Offices, and grants-in-aid programs.

American Indian Religious Freedom Act and Native American Graves and Repatriation Act

The American Indian Religious Freedom Act recognizes that Native American religious practices, sacred sites, and sacred objects have not been properly protected under other statutes. It establishes as national policy that traditional practices and beliefs, sites (including right of access), and the use of sacred objects shall be protected and preserved. Additionally, Native American remains are protected by the Native American Graves and Repatriation Act of 1990.

Other Federal Legislation

Historic preservation legislation was initiated by the Antiquities Act of 1966, which aimed to protect important historic and archaeological sites. It established a system of permits for conducting archaeological studies on federal land, as well as setting penalties for noncompliance. This permit process controls the disturbance of archaeological sites on federal land. New permits are currently issued under the Archaeological Resources Protection Act (ARPA) of 1979. The purpose of ARPA is to enhance preservation and protection of archaeological resources on public and Native American lands. The Historic Sites Act of 1935 declared that it is national policy to "Preserve for public use historic sites, buildings, and objects of national significance."

STATE REGULATIONS

California Register of Historic Resources (CRHR)

California State law also provides for the protection of cultural resources by requiring evaluations of the significance of prehistoric and historic resources identified in documents prepared pursuant to the California Environmental Quality Act (CEQA). Under CEQA, a cultural resource is considered an important historical resource if it meets any of the criteria found in Section 15064.5(a) of the CEQA Guidelines. Criteria identified in the CEQA Guidelines are similar to those described under the NHPA. The State Historic Preservation Office (SHPO) maintains the CRHR. Historic properties listed, or formally designated for eligibility to be listed, on The National Register are automatically listed on the CRHR. State Landmarks and Points of Interest are also automatically listed. The CRHR can also include properties designated under local preservation ordinances or identified through local historical resource surveys.

California Environmental Quality Act (CEQA)

CEQA requires that lead agencies determine whether projects may have a significant effect on archaeological and historical resources. This determination applies to those resources which meet significance criteria qualifying them as “unique,” “important,” listed on the California Register of Historical Resources (CRHR), or eligible for listing on the CRHR. If the agency determines that a project may have a significant effect on a significant resource, the project is determined to have a significant effect on the environment, and these effects must be addressed. If a cultural resource is found not to be significant under the qualifying criteria, it need not be considered further in the planning process.

CEQA emphasizes avoidance of archaeological and historical resources as the preferred means of reducing potential significant environmental effects resulting from projects. If avoidance is not feasible, an excavation program or some other form of mitigation must be developed to mitigate the impacts. In order to adequately address the level of potential impacts, and thereby design appropriate mitigation measures, the significance and nature of the cultural resources must be determined. The following are steps typically taken to assess and mitigate potential impacts to cultural resources for the purposes of CEQA:

- identify cultural resources;
- evaluate the significance of the cultural resources found;
- evaluate the effects of the project on cultural resources; and
- develop and implement measures to mitigate the effects of the project on cultural resources that would be significantly affected.

In 2015, CEQA was amended to require lead agencies to determine whether projects may have a significant effect on tribal cultural resources. (Public Resources Code [PRC] § 21084.2). To qualify as a tribal cultural resource, the resource must be a site, feature, place, cultural landscape, sacred place, or object, which is of cultural value to a California Native American Tribe and is listed, or eligible for listing, on the national, state, or local register of historic resources. Lead agencies may also use their discretion to treat any notable resource as a tribal cultural resource. To determine whether a project may have an impact on a resource, the lead agency is required to consult with any California Native American tribe that requests consultation and is affiliated with the geographic

area of a proposed project (PRC § 21080.3.1). CEQA requires that a lead agency consider the value of the cultural resource to the tribe and consider measures to mitigate any adverse impact.

California Public Resources Code

Section 5097 of the Public Resources Code specifies the procedures to be followed in the event of the unexpected discovery of historic, archaeological, and paleontological resources, including human remains, historic or prehistoric resources, paleontological resources on nonfederal land. The disposition of Native American burial falls within the jurisdiction of the California Native American Heritage Commission (NAHC). Section 5097.5 of the Code states the following:

No person shall knowingly and willfully excavate upon, or remove, destroy, injure or deface any historic or prehistoric ruins, burial grounds, archaeological or vertebrate paleontological site, including fossilized footprints, inscriptions made by human agency, 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. Violation of this section is a misdemeanor.

California Health and Safety Code

Section 7050.5 of the California Health and Safety Code requires that construction or excavation be stopped in the vicinity of discovered human remains until the county coroner can determine whether the remains are those of a Native American. If the remains are determined to be Native American, the coroner must contact the California Native American Heritage Commission. CEQA Guidelines (Section 15064.5) specify the procedures to be followed in case of the discovery of human remains on non-federal land. The disposition of Native American burials falls within the jurisdiction of the Native American Heritage Commission.

Senate Bill 18 (Burton, Chapter 905, Statutes 2004)

SB 18, authored by Senator John Burton and signed into law by Governor Arnold Schwarzenegger in September 2004, requires local (city and county) governments to consult with California Native American tribes to aid in the protection of traditional tribal cultural places (“cultural places”) through local land use planning. This legislation, which amended §65040.2, §65092, §65351, §65352, and §65560, and added §65352.3, §653524, and §65562.5 to the Government Code; also requires the Governor’s Office of Planning and Research (OPR) to include in the General Plan Guidelines advice to local governments for how to conduct these consultations. The intent of SB 18 is to provide California Native American tribes an opportunity to participate in local land use decisions at an early planning stage, for the purpose of protecting, or mitigating impacts to, cultural places. These consultation and notice requirements apply to adoption and amendment of both general plans (defined in Government Code §65300 et seq.) and specific plans (defined in Government Code §65450 et seq.).

Assembly Bill 978

In 2001, Assembly Bill (AB) 978 expanded the reach of Native American Graves Protection and Repatriation Act of 1990 and established a State commission with statutory powers to assure that

3.5 CULTURAL RESOURCES

Federal and State laws regarding the repatriation of Native American human remains and items of patrimony are fully complied with. In addition, AB 978 also included non-Federally recognized tribes for repatriation.

Assembly Bill 52

Assembly Bill (AB) 52, approved in September 2014, creates a formal role for California Native American tribes by creating a formal consultation process and establishing that a substantial adverse change to a tribal cultural resource has a significant effect on the environment. Tribal cultural resources are defined as:

- 1) Sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American tribe that are either of the following:
 - A) Included or determined to be eligible for inclusion in the CRHR
 - B) Included in a local register of historical resources as defined in PRC Section 5020.1(k)
- 2) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in PRC Section 5024.1 (c). In applying the criteria set forth in PRC Section 5024.1 (c) the lead agency shall consider the significance of the resource to a California Native American tribe.

A cultural landscape that meets the criteria above is also a tribal cultural resource to the extent that the landscape is geographically defined in terms of the size and scope of the landscape. In addition, a historical resource described in PRC Section 21084.1, a unique archaeological resource as defined in PRC Section 21083.2(g), or a “non-unique archaeological resource” as defined in PRC Section 21083.2(h) may also be a tribal cultural resource if it conforms with above criteria.

AB 52 requires a lead agency, prior to the release of a negative declaration, mitigated negative declaration, or environmental impact report for a project, to begin consultation with a California Native American tribe that is traditionally and culturally affiliated with the geographic area of the proposed project if: (1) the California Native American tribe requested to the lead agency, in writing, to be informed by the lead agency through formal notification of proposed projects in the geographic area that is traditionally and culturally affiliated with the tribe, and (2) the California Native American tribe responds, in writing, within 30 days of receipt of the formal notification, and requests the consultation.

3.5.3 IMPACTS AND MITIGATION MEASURES

THRESHOLDS OF SIGNIFICANCE

Consistent with Appendix G of the CEQA Guidelines, the proposed project is considered to have a significant impact on cultural or tribal resources if it will:

- Cause a substantial adverse change in the significance of a historical resource pursuant to Section 15064.5?
- Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5?
- Disturb any human remains, including those interred outside of formal cemeteries?
- Cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code Section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:
 - Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code Section 5020.1(k)?
 - A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1? In applying the criteria set forth in subdivision (c) of Public Resources Code Section 5024.1, the lead agency shall consider the significance of the resources to a California Native American tribe.

IMPACTS AND MITIGATION MEASURES

Impact 3.5-1: General Plan implementation could cause a substantial adverse change in the significance of a historical or archaeological resource pursuant to Section 15064.5 (Less than Significant)

A substantial adverse change in the significance of an historic resource is defined in Section 15064.5 (b)(1) of the CEQA Guidelines as the “physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of an historical resource would be materially impaired.

As described previously, 736 cultural resources have been identified within the County of Glenn General Plan Study Area, according to files maintained by the Northeast Information Center (NEIC) of the California Historical Resources Information System (CHRIS). Additionally, there is one property currently listed on the National Register of Historic Places or California Register of Historic Places for the County of Glenn General Plan Study Area, the Gianella Bridge. The County of Glenn General Plan Study Area has one California Historical Landmark (CHL), #831, the site of the First Posted Water Notice by Will S. Green, located at Cutler and First Avenue, Hamilton City.

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While the General Plan does not directly propose any adverse changes to any historic or archaeological resources, future development allowed under the General Plan could affect known historical or unknown historical and archaeological resources which have not yet been identified.

As future development and infrastructure projects are considered by the County, each project will be evaluated for conformance with the County's General Plan and other applicable State and local regulations. Subsequent development and infrastructure projects would also be analyzed for potential environmental impacts, consistent with the requirements of CEQA.

The General Plan includes policies and actions that would reduce impacts to cultural, historic, and archaeological resources, as well as policies and actions for the conservation of cultural, historic, and archaeological resources. Specifically, General Plan policies require development projects with a potential to impact archeological resources to be monitored by a relevant expert. In the event of a resource discovery, it is required that all ground disturbing activities and construction to be halted until a qualified expert is able to analyze the project site and determine appropriate mitigation. Additionally, the General Plan requires tribal consultation with tribes that may be impacted by proposed development, in accordance with state, local, and tribal intergovernmental consultation requirements. Adoption and implementation of the policies and actions listed below, combined with future CEQA review requirements, would result in a **less than significant** to historic and archaeological resources.

GENERAL PLAN POLICIES AND ACTIONS THAT MINIMIZE POTENTIAL IMPACTS

CONSERVATION AND OPEN SPACE ELEMENT POLICIES

COS 2-1: Review proposed developments and infrastructure improvements in conjunction with the California Historical Resources Information System, Northwest Information Center to determine whether project areas contain known archaeological resources, either prehistoric and/or historic-era, or have the potential for such resources.

COS 2-2: If found during construction, ensure that human remains are treated with sensitivity and dignity, and ensure compliance with the provisions of California Health and Safety Code Section 7050.5 and California Public Resources Code Section 5097.98.

COS 2-3: Work with Native American representatives to identify and appropriately address, through avoidance or mitigation, impacts to Native American cultural resources and sacred sites during the development review process consistent with State and Federal requirements.

COS 2-4: Provide readily available public information on the Mills Act and encourage people to renovate historic homes in disrepair using property tax savings available through the Mills Act.

CONSERVATION AND OPEN SPACE ELEMENT ACTIONS

Action COS-2a: Require a cultural and archaeological survey prior to approval of any project which would require excavation in an area that is sensitive for cultural or archaeological resources. If significant cultural or archaeological resources, including historic and prehistoric resources, are

identified, appropriate measures shall be implemented, such as documentation and conservation, to reduce adverse impacts to the resource.

Action COS-2b: Require all development, infrastructure, and other ground-disturbing projects to comply with the following conditions in the event of an inadvertent discovery of cultural resources or human remains:

- a. If construction or grading activities result in the discovery of significant historic or prehistoric archaeological artifacts or unique paleontological resources, all work within 100 feet of the discovery shall cease, the County Planning and Community Development Services Agency shall be notified, the resources shall be examined by a qualified archaeologist, paleontologist, or historian for appropriate protection and preservation measures; and work may only resume when appropriate protections are in place and have been approved by the County Planning and Community Development Services Agency.*
- b. If human remains are discovered during any ground disturbing activity, work shall stop until the County Sheriff and Coroner and County Planning and Community Development Services Agency have been contacted; if the human remains are determined to be of Native American origin, the Native American Heritage Commission (NAHC) and the most likely descendants have been consulted; and work may only resume when appropriate measures have been taken and approved by the County Planning and Community Development Services Agency.*

Action COS-2c: Consistent with State, local, and tribal intergovernmental consultation requirements such as SB 18 and AB 52, the County shall consult as necessary with Native American tribes that may be interested in proposed new development projects and land use policy changes.

Action COS-2d: Provide educational resources and public outreach efforts that inform citizens of historical preservation efforts including:

- School age programs, and on-line exhibits;*
- Collaboration with community groups, and educational institutions to promote local awareness and appreciation of the County's rich history.*

Impact 3.5-2: Implementation of the General Plan could lead to the disturbance of any human remains (Less than Significant)

Indications are that humans have occupied areas near the Planning Area for at least the past 6,000 years and it is not always possible to predict where human remains may occur outside of formal burials. Therefore, excavation and construction activities allowed under the General Plan may yield human remains that may not be marked in formal burials.

Future projects may disturb or destroy buried Native American human remains, including those interred outside of formal cemeteries. Consistent with state laws protecting these remains (that is, Health and Safety Code Section 7050.5 and Public Resources Code Section 5097.98), sites containing Native American human remains must be treated in a sensitive manner.

As future development and infrastructure projects are considered by the County, each project will be evaluated for conformance with the County's General Plan and other applicable State and local

3.5 CULTURAL RESOURCES

regulations. Subsequent development and infrastructure projects would also be analyzed for potential environmental impacts, consistent with the requirements of CEQA. Under CEQA, human remains are protected under the definition of archaeological materials as being “any evidence of human activity.” Public Resources Code Section 5097 has specific stop-work and notification procedures to follow in the event that Native American human remains are inadvertently discovered during development activities. The General Plan requires that human remains are treated in compliance with the provisions of California Health and Safety Code Section 7050.5 and California Public Resources Code Section 5097.98. Implementation of the policies and actions of the General Plan listed below would result in a **less than significant** impact to disturbance of human remains.

GENERAL PLAN POLICIES AND ACTIONS THAT MINIMIZE POTENTIAL IMPACTS

CONSERVATION AND SUSTAINABILITY ELEMENT POLICIES

COS 2-1: Review proposed developments and infrastructure improvements in conjunction with the California Historical Resources Information System, Northwest Information Center to determine whether project areas contain known archaeological resources, either prehistoric and/or historic era, or have the potential for such resources.

COS 2-2: If found during construction, ensure that human remains are treated with sensitivity and dignity, and ensure compliance with the provisions of California Health and Safety Code Section 7050.5 and California Public Resources Code Section 5097.98.

COS 2-3: Work with Native American representatives to identify and appropriately address, through avoidance or mitigation, impacts to Native American cultural resources and sacred sites during the development review process consistent with State and Federal requirements.

CONSERVATION AND OPEN SPACE ELEMENT ACTIONS

Action COS-2a Require a cultural and archaeological survey prior to approval of any project which would require excavation in an area that is sensitive for cultural or archaeological resources. If significant cultural or archaeological resources, including historic and prehistoric resources, are identified, appropriate measures shall be implemented, such as documentation and conservation, to reduce adverse impacts to the resource.

Action COS-2b Require all development, infrastructure, and other ground-disturbing projects to comply with the following conditions in the event of an inadvertent discovery of cultural resources or human remains:

- a) If construction or grading activities result in the discovery of significant historic or prehistoric archaeological artifacts or unique paleontological resources, all work within 100 feet of the discovery shall cease, the County Planning and Community Development Services Agency shall be notified, the resources shall be examined by a qualified archaeologist, paleontologist, or historian for appropriate protection and preservation measures; and work may only resume when appropriate protections are in place and have been approved by the County Planning and Community Development Services Agency.*

- b) *If human remains are discovered during any ground disturbing activity, work shall stop until the County Sheriff and Coroner and County Planning and Community Development Services Agency have been contacted; if the human remains are determined to be of Native American origin, the Native American Heritage Commission (NAHC) and the most likely descendants have been consulted; and work may only resume when appropriate measures have been taken and approved by the County Planning and Community Development Services Agency.*

Impact 3.5-3: Cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code Section 21074, and that is: Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code Section 5020.1(k), or a resource determined by the lead agency (Less than Significant).

As described previously, the County of Glenn conducted Native American consultations under Senate Bill 18 (Chapter 905, Statutes of 2004), also known as SB18, which requires local governments to consult with Tribes prior to making certain planning decisions and requires consultation and notice for a general and specific plan adoption or amendments in order to preserve, or mitigate impacts to, cultural places that may be affected. While no responses have been received and no specific resources have been identified through consultation with affiliated tribes, it is possible that unknown tribal cultural resources may be present and could be adversely affected by implementation of measures and strategies associated with the project.

Specific locations for future development and improvements have not been identified. Future projects would be required to be evaluated for project-specific impacts under CEQA at the time of application. The General Plan and local CEQA guidelines require tribal consultation and the protections of any identified archeological and tribal resources.

All future development projects would be required to follow development requirements, including compliance with local policies, ordinances, and applicable permitting procedures related to protection of tribal resources. Subsequent projects would be required to prepare site-specific project-level analysis to fulfill CEQA requirements, which also would include additional consultation that could lead to the identification of potential site-specific tribal resources.

As discussed under impact discussions 3.5-1 and 3.5-2, impacts from future development could discover unknown archaeological resources including Native American artifacts and human remains. Impacts would result in a less-than-significant impact with implementation of General Plan policies and actions and local review guidelines. Compliance with the General Plan policies and actions, as well as State and local guidelines would provide an opportunity to identify, disclose, and avoid or minimize the disturbance of and impacts to a tribal resource through consultation and CEQA review procedures. Therefore, implementation of the policies and actions within the General Plan listed below would result in a **less than significant** impact.

3.5 CULTURAL RESOURCES

GENERAL PLAN POLICIES AND ACTIONS THAT MINIMIZE POTENTIAL IMPACTS

CONSERVATION AND OPEN SPACE ELEMENT POLICIES

COS 2-1: Review proposed developments and infrastructure improvements in conjunction with the California Historical Resources Information System, Northwest Information Center to determine whether project areas contain known archaeological resources, either prehistoric and/or historic-era, or have the potential for such resources.

COS 2-2: If found during construction, ensure that human remains are treated with sensitivity and dignity, and ensure compliance with the provisions of California Health and Safety Code Section 7050.5 and California Public Resources Code Section 5097.98.

COS 2-3: Work with Native American representatives to identify and appropriately address, through avoidance or mitigation, impacts to Native American cultural resources and sacred sites during the development review process consistent with State and Federal requirements.

COS 2-4: Provide readily available public information on the Mills Act and encourage people to renovate historic homes in disrepair using property tax savings available through the Mills Act.

CONSERVATION AND OPEN SPACE ELEMENT ACTIONS

Action COS-2a: Require a cultural and archaeological survey prior to approval of any project which would require excavation in an area that is sensitive for cultural or archaeological resources. If significant cultural or archaeological resources, including historic and prehistoric resources, are identified, appropriate measures shall be implemented, such as documentation and conservation, to reduce adverse impacts to the resource.

Action COS-2b: Require all development, infrastructure, and other ground-disturbing projects to comply with the following conditions in the event of an inadvertent discovery of cultural resources or human remains:

- c. If construction or grading activities result in the discovery of significant historic or prehistoric archaeological artifacts or unique paleontological resources, all work within 100 feet of the discovery shall cease, the County Planning and Community Development Services Agency shall be notified, the resources shall be examined by a qualified archaeologist, paleontologist, or historian for appropriate protection and preservation measures; and work may only resume when appropriate protections are in place and have been approved by the County Planning and Community Development Services Agency.*
- d. If human remains are discovered during any ground disturbing activity, work shall stop until the County Sheriff and Coroner and County Planning and Community Development Services Agency have been contacted; if the human remains are determined to be of Native American origin, the Native American Heritage Commission (NAHC) and the most likely descendants have been consulted; and work may only resume when appropriate measures have been taken and approved by the County Planning and Community Development Services Agency.*

Action COS-2c: Consistent with State, local, and tribal intergovernmental consultation requirements such as SB 18 and AB 52, the County shall consult as necessary with Native American tribes that may be interested in proposed new development projects and land use policy changes.

Action COS-2d: Provide educational resources and public outreach efforts that inform citizens of historical preservation efforts including:

- *School age programs, and on-line exhibits;*
- *Collaboration with community groups, and educational institutions to promote local awareness and appreciation of the County's rich history.*

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This section provides a background discussion of the seismic and geologic hazards found in the Planning Area. This section is organized with an environmental setting, regulatory setting, and impact analysis.

No comments on this environmental topic were received during the NOP comment period.

3.6.1 ENVIRONMENTAL SETTING

Glenn County is located in the northern Sacramento Valley and the eastern foothills and mountains of the Coast Range, approximately 80 miles north of the city of Sacramento. The County encompasses approximately 1,317 square miles in north central California. The County extends from the Sacramento River west to the Coast Range. The climate varies by region, but generally the county has cool, wet winters and hot, dry summers. Precipitation is normally in the form of rain, with snow in the higher elevations, and ranges from approximately 19 to 24 inches on average per year.

GEOMORPHIC PROVINCE

California's geomorphic provinces are naturally defined geologic regions that display a distinct landscape or landform. Earth scientists recognize eleven provinces in California. Each region displays unique, defining features based on geology, faults, topographic relief and climate. These geomorphic provinces are remarkably diverse. They provide spectacular vistas and unique opportunities to learn about earth's geologic processes and history. Glenn County is located in portions of the Coast Range, and Great Valley geomorphic provinces of California.

Great Valley. The Great Valley is an alluvial plain about 50 miles wide and 400 miles long in the central part of California. Its northern part is the Sacramento Valley, drained by the Sacramento River and its southern part is the San Joaquin Valley drained by the San Joaquin River. The Great Valley is a trough in which sediments have been deposited almost continuously since the Jurassic (about 160 million years ago). Great oil fields have been found in southernmost San Joaquin Valley and along anticlinal uplifts on its southwestern margin. In the Sacramento Valley, the Sutter Buttes, the remnants of an isolated Pliocene volcano, rise above the valley floor.

Coast Range (North). The Coast Range is a northwest-trending mountain range (2,000 to 4,000, occasionally 6,000 feet elevation above sea level). The range trends northwest and subparallel to the San Andreas Fault. To the west is the Pacific Ocean and to the east is the Great Valley. The Coast Range is composed of thick Mesozoic and Cenozoic sedimentary strata that dips beneath alluvium of the Great Valley. The northern Coast Range is dominated by irregular, knobby, landslide-topography of the Franciscan Complex.

REGIONAL GEOLOGY

The Planning Area lies in the Sacramento Valley in Northern California. The Sacramento Valley is located in the Northern portion of the Great Valley Geomorphic Province. The Great Valley, also known as the Central Valley, is a topographically flat, northwest-trending, structural trough (or basin) about 50 miles wide and 450 miles long. The Great Valley is bordered by the Tehachapi

3.6 GEOLOGY AND SOILS

Mountains on the south, the Klamath Mountains on the north, the Sierra Nevada on the east, and the Coast Ranges on the west.

Similar to the county's terrain, rock types can be broadly divided into three different units which increase in age from east to west. In the east, geologic materials consist primarily of unconsolidated Pleistocene and Recent sediments including alluvial fan deposits, stream channel deposits of the Sacramento River and inland basin deposits. Exposed at the lower elevations of the foothills are Tertiary sediments, primarily consisting of Pliocene sediments with some continental volcanics. At the higher foothill elevations, exposed outcrops are Cretaceous and Jurassic marine and non-marine sedimentary rocks, while the western mountainous region of the county is formed mainly of deformed Jurassic marine sediments and volcanics.

SEISMIC HAZARDS

Seismic hazards include both rupture (surface and subsurface) along active faults and ground shaking, which can occur over wider areas. Ground shaking, produced by various tectonic phenomena, is the principal source of seismic hazards in areas devoid of active faults. All areas of the state are subject to some level of seismic ground shaking.

Several scales may be used to measure the strength or magnitude of an earthquake. Magnitude scales (ML) measure the energy released by earthquakes. The Richter scale, which represents magnitude at the earthquake epicenter, is an example of an ML. As the Richter scale is logarithmic, each whole number represents a 10-fold increase in magnitude over the preceding number. Table 3.6-1 represents effects that would be commonly associated with Richter Magnitudes.

TABLE 3.6-1: RICHTER MAGNITUDES AND EFFECTS

MAGNITUDE	EFFECTS
< 3.5	Typically not felt
3.5 – 5.4	Often felt but damage is rare
5.5 – < 6	Damage is slight for well-built buildings
6.1 – 6.9	Destructive potential over ±60 miles of occupied area
7.0 – 7.9	“Major Earthquake” with the ability to cause damage over larger areas
≥ 8	“Great Earthquake” can cause damage over several hundred miles

SOURCE: USGS, EARTHQUAKE PROGRAM.

Moment Magnitude (Mw) is used by the United States Geological Service (USGS) to describe the magnitude of large earthquakes in the U.S. The value of moment is proportional to fault slip multiplied by the fault surface area. Thus, moment is a measurement that is related to the amount of energy released at the point of movement. The Mw scale is often preferred over other scales, such as the Richter, because it is valid over the entire range of magnitudes. Moment is normally converted to Mw, a scale that approximates the values of the Richter scale.

Seismic ground shaking hazards are calculated as a probability of exceeding certain ground motion over a period of time, usually expressed in terms of "acceleration." The acceleration of the Earth during an earthquake can be described in terms of its percentage of gravity (g). For example, the 10% probability of exceedance in 50 years is an annual probability of 1 in 475 of being exceeded

each year. This level of ground shaking has been used for designing buildings in high seismic areas. This probability level allows engineers to design buildings for larger ground motions than what is expected to occur during a 50-year interval, which will make buildings safer than if they were only designed for the ground motions that are expected to occur in the next 50 years.

In contrast, other scales describe earthquake intensity, which can vary depending on local characteristics. The Modified Mercalli Scale (MM) expresses earthquake intensity at the surface on a scale of I through XII. Table 3.6-2 below presents Modified Mercalli intensity effects at each level.

TABLE 3.6-2: MODIFIED MERCALLI INTENSITIES AND EFFECTS

<i>MM</i>	<i>EFFECTS</i>
I	Movement is imperceptible
II	Movement may be perceived (by those at rest or in tall buildings)
III	Many feel movement indoors; may not be perceptible outdoors
IV	Most feel movement indoors; windows, doors, and dishes will rattle
V	Nearly everyone will feel movement; sleeping people may be awakened
VI	Difficulty walking; many items fall from shelves; pictures fall from walls
VII	Difficulty standing; vehicle shaking felt by drivers; some furniture breaks
VIII	Difficulty steering vehicles; houses may shift on foundations
IX	Well-built buildings suffer considerable damage; ground may crack
X	Most buildings and foundations and some bridges destroyed
XI	Most buildings collapse; some bridges destroyed; large cracks in ground
XII	Large scale destruction; objects can be thrown into the air

SOURCE: ASSOCIATION OF BAY AREA GOVERNMENTS, 2011.

According to the California Geological Survey's Probabilistic Seismic Hazard Assessment Program, Glenn County is considered to be within an area that is predicted to have a 10 percent probability that a seismic event would produce horizontal ground shaking of 10 to 20 percent within a 50-year period. This level of ground shaking correlates to a Modified Mercalli intensity of V to VII, light to strong.

The Significant United States Earthquake data published by the USGS in the National Atlas identifies earthquakes that caused deaths, property damage, and geologic effects or were felt by populations near the epicenter. No significant earthquakes are identified within the Planning Area; however, significant earthquakes are documented in the region. The following table presents the significant earthquakes in the region.

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TABLE 3.6-3: SIGNIFICANT EARTHQUAKES IN THE REGION

MAGNITUDE	INTENSITY	LOCATION	YEAR
5.6	VII	Petrolia	2019
5.0	V	Geysers	2016
5.1	IV	Upper Lake	2016
5.7	VII	Greenville	2013
5.1	N/A	Redding	1998
5.7	N/A	Palermo	1975
5.5	N/A	Lassen Peak	1950
5.0	N/A	Lassen Peak	1946
5.6	N/A	Ukiah	1869
5.5	N/A	Sierra County	1855

SOURCE: UNITED STATE GEOLOGICAL SURVEY, 2019.

FAULTS

Faults are classified as Historic, Holocene, Late Quaternary, Quaternary, and Pre-Quaternary according to the age of most recent movement (California Geological Survey, 2002). These classifications are described as follows:

- **Historic:** faults on which surface displacement has occurred within the past 200 years;
- **Holocene:** shows evidence of fault displacement within the past 11,000 years, but without historic record;
- **Late Quaternary:** shows evidence of fault displacement within the past 700,000 years, but may be younger due to a lack of overlying deposits that enable more accurate age estimates;
- **Quaternary:** shows evidence of displacement sometime during the past 1.6 million years; and
- **Pre-Quaternary:** without recognized displacement during the past 1.6 million years.

Faults are further distinguished as active, potentially active, or inactive. (California Geological Survey, 2002).

- **Active:** An active fault is a Historic or Holocene fault that has had surface displacement within the last 11,000 years;
- **Potentially Active:** A potentially active fault is a pre-Holocene Quaternary fault that has evidence of surface displacement between about 1.6 million and 11,000 years ago; and
- **Inactive:** An inactive fault is a pre-Quaternary fault that does not have evidence of surface displacement within the past 1.6 million years. The probability of fault rupture is considered low; however, this classification does not mean that inactive faults cannot, or will not, rupture.

The Fault Activity Map provided by the California Department of Conservation identified potential seismic sources within and around the County. The closest known faults classified as active by the California Geological Survey is the Barlett Springs fault system within the Alquist-Priolo Zone, located approximately 10 miles to the outside the western boundary of the County. The Corning Fault,

Round Valley, Estel Ridge fault and Hot Spring shear zone located within and approximately 10, 5 and 10 miles respectively from the county boundary; have had movement as recently as the Quaternary Period (1.6 million years ago to 11.7 thousand years ago), thus, are considered potentially active faults. Other faults that could potentially affect the Planning Area include the Chico Monocline and Stoney Creek Faults. Figure 3.6-1 illustrates the location of some of the closest faults.

SEISMIC HAZARD ZONES

Alquist-Priolo Fault Zones

The California legislature passed the Alquist-Priolo Special Studies Zone Act in 1972 to address seismic hazards associated with faults and to establish criteria for developments for areas with identified seismic hazard zones. The California Geologic Survey (CGS) evaluates faults with available geologic and seismologic data and determines if a fault should be zoned as active, potentially active, or inactive. If CGS determines a fault to be active, then it is typically incorporated into a Special Studies Zone in accordance with the Alquist-Priolo Earthquake Hazard Act. Alquist-Priolo Special Study Zones are usually one-quarter mile or less in width and require site-specific evaluation of fault location and require a structure setback if the fault is found traversing a project site. The Planning Area is not within an Alquist-Priolo Special Study Zone. The nearest Alquist-Priolo fault zone, the Bartlett Springs, is located approximately 10 miles to the outside the western boundary of the County.

LIQUEFACTION

Liquefaction, which is primarily associated with loose, saturated materials, is most common in areas of sand and silt or on reclaimed lands. Cohesion between the loose materials that comprise the soil may be jeopardized during seismic events and the ground will take on liquid properties. Thus, liquefaction requires specific soil characteristics and seismic shaking.

In collaboration with the USGS Earthquake Hazard Program, the California Geological Survey (CGS) produces Liquefaction Susceptibility Maps and identifies “Zones of Required Investigation” per the State’s Seismic Hazard Zonation Program.

The article *Mapping Liquefaction-Induced Ground Failure Potential* (Youd and Perkins, 1978) provides a generalized matrix to demonstrate the relationship between liquefaction potential and depositional landscapes. Table 3.6-4, which is recreated from Youd and Perkins, demonstrates the general relationship between the nature and age of sediment and the anticipated liquefaction potential.

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TABLE 3.6-4: LIQUEFACTION POTENTIAL BASED ON SEDIMENT TYPE AND AGE OF DEPOSIT

SEDIMENT	SUSCEPTIBILITY BASED ON AGE OF DEPOSITS (YEARS BEFORE PRESENT)			
	MODERN (< 500)	HOLOCENE (< 10,000)	PLEISTOCENE (< 2 MILLION)	PRE-PLEISTOCENE (> 2 MILLION)
River Channel	Very High	High	Low	Very Low
Flood Plain	High	Moderate	Low	Very Low
Alluvial Fan/Plain	Moderate	Low	Low	Very Low
Lacustrine/Playa	High	Moderate	Low	Very Low
Colluvium	High	Moderate	Low	Very Low
Talus	Low	Low	Very Low	Very Low
Loess	High	High	High	- ? -
Glacial Till	Low	Low	Very Low	Very Low
Tuff	Low	Low	Very Low	Very Low
Tephra	High	High	- ? -	- ? -
Residual Soils	Low	Low	Very Low	Very Low
Sebka	High	Moderate	Low	Very Low
Un-compacted Fill	Very High	NA	NA	NA
Compacted fill	Low	NA	NA	NA

SOURCE: YOUD AND PERKINS, 1978

Soil data from the NRCS Web Soil Survey (NRCS 2019) suggests that the soils potential for liquefaction ranges from low to high within the Planning Area given that many soils are high in sand and the water table is moderately high.

STRUCTURAL DAMAGE

Fault Rupture Damage. A fault rupture occurs when the surface of the earth breaks as a result of an earthquake, although this does not happen with all earthquakes. These ruptures generally occur in a weak area of an existing fault. Ruptures can be sudden (i.e. earthquake) or slow (i.e. fault creep). The Alquist-Priolo Fault Zoning Act requires active earthquake fault zones to be mapped and it provides special development considerations within these zones. Glenn County does not have surface expression of active faults and fault rupture is not anticipated.

Ground Shaking Damage. As is the case for most areas within California, the potential for seismic ground shaking in the Planning Area is expected. As a result, the State requires special design considerations for all structural improvements in accordance with the seismic design provisions in the California Building Code. California's seismic design provisions require enhanced structural integrity based on several risk parameters with the ultimate objective of protecting the life and safety of building occupants and the public. For large earthquakes, the seismic design standards primarily ensure that the building will not collapse, but some structural and non-structural damage may be expected. Older buildings constructed of unreinforced masonry, including materials such as brick, concrete, and stone, pre-1940 wood frame houses, and pre-1973 tilt-up concrete buildings are particularly susceptible to structural damage from ground shaking. In most cases, these older buildings require retrofit, or they risk significant structural damage during an earthquake.

Liquefaction Damage. The liquefaction potential varies from low to high within the Planning Area. Liquefaction may pose hazards to structures and infrastructure located throughout the Planning Area. There are a variety of geotechnical strategies that can be implemented to mitigate the potential for structural damage. These include appropriate foundation design, engineering soils, groundwater management, and the use of special flexible materials for construction.

Landslide and Lateral Spreading Damage. The majority of the county's developed areas are generally flat; therefore, the potential for landslides is generally low. Landslide potential exists in the western portions of the county within the foothill and forest regions. The landslide and lateral spreading potential increases some in the mountainous terrain in the western portion of the Planning Area. There are a variety of geotechnical strategies that can be implemented to mitigate the potential for landslide and lateral spreading in this area. These include engineering soils, groundwater management, surface water control, slope reconfiguration, and structural reinforcement if necessary.

OTHER GEOLOGIC HAZARDS

Soils

According to the Natural Resource Conservation Service (2019), there are 75 different soil series located in the Planning Area. Figure 3.6-2 presents a map of the soils located in the Planning Area. Below is a brief description of the most prominent soils within the County.

Sheetiron loam and complexes. The Sheetiron series consists of moderately deep, well drained soils formed in material derived from mica-quartz schist. Sheetiron soils are on mountains. Slopes are 9 to 90 percent. The mean annual precipitation is about 45 inches and the mean annual temperature is about 52 degrees F. These soils are used mainly for timber production, wildlife habitat and watershed. Native vegetation is ponderosa pine, Douglas-fir, sugar pine, Jeffrey pine, California black oak, canyon live oak, Oregon white oak, manzanita and ceanothus; Scattered white fir occur at the higher elevations. These soils occur in the North part of the Coast Ranges and Klamath Mountains in California and possibly in Oregon. The soils are moderately extensive.

Sehorn soils, complexes and associations. The Sehorn series consists of moderately deep, well-drained soil on foothills. These soils formed in residuum weathered from calcareous sandstone and shale. Slope ranges from 2 to 75 percent. The mean annual precipitation is about 25 inches and the mean annual temperature is about 61 degrees F. These soils are used for grazing with a few areas of gently sloping soils used for dryland grain. Natural vegetation is annual grasses and forbs with blue oaks and shrubs. These soils occur in the foothills of the eastern slopes of the northern Coast Range, California. The soils are moderately extensive.

Maymen loam. The Maymen series consists of shallow, somewhat excessively drained soils that formed in residuum weathered from shale, schist, greenstone, sandstone and conglomerate. Maymen soils are on mountains. Slopes range from 5 to 100 percent. The mean annual precipitation is about 42 inches, and the mean annual temperature is about 54 degrees F. This soil is used for watershed, wildlife habitat and recreation. Vegetation is usually open stands of chaparral consisting

of chamise, Manzanita, several species of ceanothus, several species of scrub or dwarf oak and scattered small trees in protected sites such as drainages or north slopes. The soils are extensive and are mapped in the coast ranges of northern and central California.

Hillgate loams and complexes. The Hillgate series consists of very deep, well to moderately well drained soils that formed in alluvium from mixed sources. They are on low terraces with slopes of 0 to 50 percent. Mean annual precipitation is about 16 inches and the mean annual temperature is about 61 degrees F. These soils are used where cultivated, small grains, irrigated pasture, shallow rooted row crops and rice. Areas not cultivated, annual grasses and forbs with open stands of valley and blue oaks. These soils occur in the west side of Sacramento Valley and Coast Range valleys soils are of moderate extent.

Newville loams and complexes. The Newville series consists of very deep, well drained soils that formed in gravelly alluvium from sedimentary and metamorphic rocks. Newville soils are on dissected fan remnants. Slopes range from 3 to 65 percent. The mean annual temperature is 60 to 63 degrees F. (15 to 17 degrees C.) and mean annual precipitation from 15 to 25 inches (381 to 635 millimeters). These soils are used for grazing and some dry farmed grain. The vegetation is annual grasses, forbs, blue oak and scattered shrubs. These soils occur in dissected fan remnants on the west side of Sacramento Valley, California. The soils are moderately extensive.

Millsholm loams and complexes. The Millsholm series consists of shallow, well drained soils that formed in material weathered from sandstone, mudstone and shale. Millsholm soils are on hills and mountains and have slopes of 5 to 75 percent. The mean annual precipitation is about 25 inches and the mean annual temperature is about 60 degrees F. These soils are used mainly for livestock grazing. Principal native plants are annual grasses with blue oak, manzanita, ceanothus, and Foothill pine. Chamise is common in some areas. These soils occur in foothills of the eastern slopes of the northern Coast Range, California and the hills and mountains of the Diablo Range in the California Coast Ranges. The soils are extensive.

Erosion

Erosion naturally occurs on the surface of the earth as surface materials (i.e. rock, soil, debris, etc.) is loosened, dissolved, or worn away, and transported from one place to another by gravity. Two common types of soil erosion include wind erosion and water erosion. The steepness of a slope is an important factor that affects soil erosion. Erosion potential in soils is influenced primarily by loose soil texture and steep slopes. Loose soils can be eroded by water or wind forces, whereas soils with high clay content are generally susceptible only to water erosion. The potential for erosion generally increases as a result of human activity, primarily through the development of facilities and impervious surfaces and the removal of vegetative cover. Erosion may be expected in Glenn County where protective vegetation is removed by construction, fire or cultivation. Factors that contribute to erosion include topography, rainfall, and soil type. Similar to landslide potential, erosion hazard in the county is highest in the western mountain region and lowest in the eastern valley region.

Expansive Soils

Expansive soils can undergo significant volume change with changes in moisture content. They shrink and harden when dried and expand and soften when wet. If structures are underlain by expansive soils, it is important that foundation systems be capable of tolerating or resisting any potentially damaging soil movements. In addition, it is important to limit moisture changes in the surficial soils by using positive drainage away from buildings as well as limiting landscaping watering. Most of Glenn County has expansive soils. Areas of low expansion potential occur in a small area between Orland and Hamilton City and along the Sacramento River. The remainder of the valley and foothill areas is classified as having high expansion potential. The western portion of the county is classified as having moderate expansion potential.

According to the NRCS Web Soil Survey, the soils in the Planning Area soils vary from a low shrink-swell potential to a very high shrink-swell potential. Figure 3.6-3 provides a map of the shrink-swell potential of the soils within the Planning Area.

Landslide

The California Geological Survey classifies landslides with a two-part designation based on Varnes (1978) and Cruden and Varnes (1996). The designation captures both the type of material that failed and the type of movement that the failed material exhibited. Material types are broadly categorized as either rock or soil, or a combination of the two for complex movements. Landslide movements are categorized as falls, topples, spreads, slides, or flows.

Landslide potential is influenced by physical factors, such as slope, soil, vegetation, and precipitation. Landslides require a slope, and can occur naturally from seismic activity, excessive saturation, and wildfires, or from human-made conditions such as construction disturbance, vegetation removal, wildfires, etc.

Glenn County is generally flat; therefore, the potential for landslides is generally low. The areas of highest apparent landslide potential in the county generally correlate with relief. Those areas having the highest potential occur in the mountainous western portion of the county, while lower potential areas occur in the lower relief eastern portion of the county.

Lateral Spreading

Lateral spreading generally is a phenomenon where blocks of intact, non-liquefied soil move down slope on a liquefied substrate of large areal extent. The potential for lateral spreading is present where open banks and unsupported cut slopes provide a free face (unsupported vertical slope face). Ground shaking, especially when inducing liquefaction, may cause lateral spreading toward unsupported slopes. The potential for liquefaction is moderate to high in many areas of the county, however because the majority of the Planning Area is generally flat lateral spreading of soils has not been observed within the developed portions of the Planning Area.

Subsidence

Land subsidence is the gradual settling or sinking of an area with little or no horizontal motion due to changes taking place underground. It is a natural process, although it can also occur (and is greatly accelerated) as a result of human activities. Common causes of land subsidence from human activity include: pumping water, oil, and gas from underground reservoirs; dissolution of limestone aquifers (sinkholes); collapse of underground mines; drainage of organic soils; and initial wetting of dry soils. Known and potential subsidence areas occur in the eastern portion of the county where extensive groundwater withdrawals have occurred. Extraction of natural gas from reservoirs located in these same areas can also contribute to local subsidence of the land surface.

Naturally Occurring Asbestos

The term asbestos is used to describe a variety of fibrous minerals that, when airborne, can result in serious human health effects.

The EPA Region 9 office is working in areas of California to address concerns about potential effects of naturally occurring asbestos. Naturally occurring asbestos can take the form of long, thin, separable fibers. Natural weathering or human disturbance can break naturally occurring asbestos down to microscopic fibers, easily suspended in air. There is no health threat if asbestos fibers in soil remain undisturbed and do not become airborne. When inhaled, these thin fibers irritate tissues and resist the body's natural defenses. Asbestos, a known carcinogen, causes cancers of the lung and the lining of internal organs, as well as asbestosis and other diseases that inhibit lung function.

Asbestiform minerals occur naturally in rock and soil as the result of natural geologic processes, often in veins near earthquake faults in the coastal ranges and the foothills of the Sierra Nevada mountains. Sometimes the metamorphic conditions are right for the formation of chrysotile asbestos or tremolite-actinolite asbestos in bodies of ultramafic rock or along their boundaries. Asbestos is much less likely to be associated with non-ultramafic rock types.

Ultramafic rocks are igneous rocks that form in high temperature environments well below the surface of the earth. By the time they are exposed at the surface by uplift and erosion, ultramafic rocks may be partially to completely altered to serpentinite, a type of metamorphic rock. Asbestos is the generic term for the naturally occurring fibrous (asbestiform) varieties of six silicate minerals, including chrysotile which is found in serpentinite and is the most common in California.

Serpentinite is an ultramafic rock that has a greasy or waxy appearance and may be dark to light green, brown, yellow or white. Small amounts of chrysotile asbestos are common in serpentinite. Other forms of asbestos such as amphibole asbestos also occur with serpentinite, but such occurrences are less common than chrysotile asbestos.

According to United States Geological Survey, naturally occurring asbestos is mapped in Glenn County in two locations: the Salt Spring and the Sulfur Spring, both of which are located in the Salt Valley.

Tsunami/Seiches

Tsunamis and seiches are standing waves that occur in the ocean or relatively large, enclosed bodies of water (i.e., Lake Tahoe) that can follow seismic, landslide, and other events from local sources (California, Oregon, Washington coast) or distant sources (Pacific Rim, South American Coast, Alaska/Canadian coast). The Planning Area is not within a tsunami or seiche hazard area.

PALEONTOLOGICAL RESOURCES

Among the natural resources deserving conservation and preservation, and existing within the County of Glenn General Plan Study Area, are the often-unseen records of past life buried in the sediments and rocks below the pavement, buildings, soils, and vegetation which now cover most of the area. Fossils constitute a non-renewable resource: Once lost or destroyed, the exact information they contained can never be reproduced.

Paleontology is the science that attempts to unravel the meaning of these fossils in terms of the organisms they represent, the ages and geographic distribution of those organisms, how they interacted in ancient ecosystems and responded to past climatic changes, and the changes through time of all of these aspects.

The sensitivity of a given area or body of sediment with respect to paleontologic resources is a function of both the potential for the existence of fossils and the predicted significance of any fossils which may be found there. The primary consideration in the determination of paleontologic sensitivity of a given area, body of sediment, or rock formation is its potential to include fossils. Information that can contribute to assessment of this potential includes: 1) direct observation of fossils within the project area; 2) the existence of known fossil localities or documented absence of fossils in the same geologic unit (e.g., "Formation" or one of its subunits); 3) descriptive nature of sedimentary deposits (such as size of included particles or clasts, color, and bedding type) in the area of interest compared with those of similar deposits known elsewhere to favor or disfavor inclusion of fossils; and 4) interpretation of sediment details and known geologic history of the sedimentary body of interest in terms of the ancient environments in which they were deposited, followed by assessment of the favorability of those environments for the preservation of fossils.

The most general paleontological information can be obtained from geologic maps, but geologic cross sections must be reviewed for each area in question. These usually accompany geologic maps or technical reports. Once it can be determined which formations may be present in the subsurface, the question of paleontological resources must be addressed. Even though a formation is known to contain fossils, they are not usually distributed uniformly throughout the many square miles the formation may cover. If the fossils were part of a bay environment when they died, perhaps a scattered layer of shells will be preserved over large areas. If on the other hand, a whale died in this bay, you might expect to find fossil whalebone only in one small area of less than a few hundred square feet. Other resources to be considered in the determination of paleontological potential are regional geologic reports, site records on file with paleontological repositories and site-specific field surveys.

Paleontologists consider all vertebrate fossils to be of significance. Fossils of other types are considered significant if they represent a new record, new species, an oldest occurring species, the

most complete specimen of its kind, a rare species worldwide, or a species helpful in the dating of formations. However, even a previously designated low potential site may yield significant fossils.

3.6.2 REGULATORY SETTING

FEDERAL REGULATIONS

Earthquake Hazards Reduction Act

The Earthquake Hazards Reduction Act of 1977 (42 USC, 7701 et seq.) requires the establishment and maintenance of an earthquake hazards reduction program by the Federal government.

Executive Order 12699

Signed in January 1990, this executive order of the President implements provisions of the Earthquake Hazards Reduction Act for “federal, federally assisted or federally regulated new building construction” and requires the development and implementation of seismic safety programs by Federal agencies.

International Building Code (IBC)

The purpose of the International Building Code (IBC) is to provide minimum standards to preserve the public peace, health, and safety by regulating the design, construction, quality of materials, certain equipment, location, grading, use, occupancy, and maintenance of all buildings and structures. IBC standards address foundation design, shear wall strength, and other structurally related conditions.

STATE REGULATIONS

California Building Standards Code

Title 24 of the California Code of Regulations, known as the California Building Standards Code (CBSC) or simply "Title 24," contains the regulations that govern the construction of buildings in California. The CBSC includes 12 parts: California Building Standards Administrative Code, California Building Code, California Residential Building Code, California Electrical Code, California Mechanical Code, California Plumbing Code, California Energy Code, California Historical Building Code, California Fire Code, California Existing Building Code, California Green Building Standards Code (CAL Green Code), and the California Reference Standards Code. Through the CBSC, the State provides a minimum standard for building design and construction. The CBSC contains specific requirements for seismic safety, excavation, foundations, retaining walls, and site demolition. It also regulates grading activities, including drainage and erosion control.

California Health and Safety Code

Section 19100 et seq. of the California Health and Safety Code establishes the State’s regulations for earthquake protection. This section of the code requires structural designs to be capable of resisting likely stresses produced by phenomena such as strong winds and earthquakes.

Alquist-Priolo Earthquake Fault Zoning Act

The Alquist-Priolo Earthquake Fault Zoning Act of 1972 sets forth the policies and criteria of the State Mining and Geology Board, which governs the exercise of governments' responsibilities to prohibit the location of developments and structures for human occupancy across the trace of active faults. The policies and criteria are limited to potential hazards resulting from surface faulting or fault creep within Earthquake Fault Zones, as delineated on maps officially issued by the State Geologist. Working definitions include:

- Fault – a fracture or zone of closely associated fractures along which rocks on one side have been displaced with respect to those on the other side;
- Fault Zone – a zone of related faults, which commonly are braided and sub parallel, but may be branching and divergent. A fault zone has a significant width (with respect to the scale at which the fault is being considered, portrayed, or investigated), ranging from a few feet to several miles;
- Sufficiently Active Fault – a fault that has evidence of Holocene surface displacement along one or more of its segments or branches (last 11,000 years); and
- Well-Defined Fault – a fault whose trace is clearly detectable by a trained geologist as a physical feature at or just below the ground surface. The geologist should be able to locate the fault in the field with sufficient precision and confidence to indicate that the required site-specific investigations would meet with some success.

“Sufficiently Active” and “Well Defined” are the two criteria used by the State to determine if a fault should be zoned under the Alquist-Priolo Act.

Seismic Hazards Mapping Act

The Seismic Hazards Mapping Act, passed in 1990, addresses non-surface fault rupture earthquake hazards, including liquefaction and seismically-induced landslides. Under the Act, seismic hazard zones are to be mapped by the State Geologist to assist local governments in land use planning. The program and actions mandated by the Seismic Hazards Mapping Act closely resemble those of the Alquist-Priolo Earthquake Fault Zoning Act (which addresses only surface fault-rupture hazards) and are outlined below:

The State Geologist is required to delineate the various “seismic hazard zones.”

- Cities and counties, or other local permitting authority, must regulate certain development “projects” within the zones. They must withhold the development permits for a site within a zone until the geologic and soil conditions of the site are investigated and appropriate mitigation measures, if any, are incorporated into development plans.
- The State Mining and Geology Board provides additional regulations, policies, and criteria to guide cities and counties in their implementation of the law. The Board also provides guidelines for preparation of the Seismic Hazard Zone Maps and for evaluating and mitigating seismic hazards.
- Sellers (and their agents) of real property within a mapped hazard zone must disclose that the property lies within such a zone at the time of sale.

Caltrans Seismic Design Criteria

The California Department of Transportation (Caltrans) has Seismic Design Criteria (SDC), which is an encyclopedia of new and currently practiced seismic design and analysis methodologies for the design of new bridges in California. The SDC adopts a performance-based approach specifying minimum levels of structural system performance, component performance, analysis, and design practices for ordinary standard bridges. The SDC has been developed with input from the Caltrans Offices of Structure Design, Earthquake Engineering and Design Support, and Materials and Foundations. Memo 20-1 Seismic Design Methodology (Caltrans 1999) outlines the bridge category and classification, seismic performance criteria, seismic design philosophy and approach, seismic demands and capacities on structural components, and seismic design practices that collectively make up Caltrans' seismic design.

Division of Mines and Geology

The California Division of Mines and Geology (DMG) operates within the Department of Conservation. The DMG is responsible for assisting in the utilization of mineral deposits and the identification of geological hazards.

State Geological Survey

Similar to the DMG, the California Geological Survey is responsible for assisting in the identification and proper utilization of mineral deposits, as well as the identification of fault locations and other geological hazards.

3.6.3 IMPACTS AND MITIGATION MEASURES

THRESHOLDS OF SIGNIFICANCE

Consistent with Appendix G of the CEQA Guidelines, the proposed project will have a significant impact on geology and soils if it will:

- Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:
 - Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42;
 - Strong seismic ground shaking;
 - Seismic-related ground failure, including liquefaction; or
 - Landslides.
- Result in substantial soil erosion or the loss of topsoil;
- Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse;
- Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property;
- Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water; or
- Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature.

IMPACTS AND MITIGATION MEASURES

Impact 3.6-1: General Plan implementation has the potential to expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving rupture of a known earthquake fault, strong seismic ground shaking, seismic-related ground failure, including liquefaction, or landslides (Less than Significant)

There are two known Quaternary faults that have been mapped within the Planning Area and numerous faults located in the region as illustrated in Figure 3.6-1. There are no Alquist-Priolo Earthquake Fault Zones traverses the Planning Area. While there are no active faults mapped within the County, the area could experience ground shaking generated by faults within and near the Planning Area. For example, according to the California Geological Survey's Probabilistic Seismic Hazard Assessment Program, Glenn County is considered to be within an area that is predicted to have a 10 percent probability that a seismic event would produce horizontal ground shaking of 10 to 20 percent within a 50-year period. This level of ground shaking correlates to a Modified Mercalli intensity of V to VII, light to strong. As a result, future development in Glenn County may expose

people or structures to potential adverse effects associated with a seismic event, including strong ground shaking and seismic-related ground failure.

Additionally, as noted previously, the State Seismic Hazards Mapping Act (1990) addresses hazards along active faults. Seismic hazard zones are currently mapped in the California Earthquake Hazards Zone Application and it include areas mapped for liquefaction and earthquake induced landslide hazards. No areas of the County are mapped within a liquefaction and landslide hazards special study zone.

All projects would be required to comply with the provisions of the CBSC, which requires development projects to: perform geotechnical investigations in accordance with State law, engineer improvements to address potential seismic and ground failure issues, and use earthquake-resistant construction techniques to address potential earthquake loads when constructing buildings and improvements. As future development and infrastructure projects are considered by the County, each project will be evaluated for conformance with the CBSC, General Plan, Zoning Ordinance, and other regulations. Subsequent development and infrastructure would also be analyzed for potential environmental impacts, consistent with the requirements of CEQA. In addition to the requirements associated with the CBSC, the General Plan includes policies and actions to address potential impacts associated with seismic activity.

The General Plan policies and actions listed below require review of development proposals to ensure compliance with California Health and Safety Code Section 19100 et seq. (Earthquake Protection Law), which requires that buildings be designed to resist stresses produced by natural forces such as earthquakes and wind. All development and construction proposals must be reviewed by the County to ensure that all new development and construction is in conformance with applicable building standards related to geologic and seismic safety. All future projects are subject to CEQA review to address seismic safety issues and provide site specific mitigation for existing and potential hazards identified. With the implementation of the policies and actions in the General Plan, as well as applicable State and County codes, potential impacts associated with a seismic event, including rupture of an earthquake fault, seismic ground shaking, liquefaction, and landslides would be **less than significant**.

GENERAL PLAN POLICIES AND ACTIONS THAT MINIMIZE POTENTIAL IMPACTS

SAFETY ELEMENT POLICIES

SA 1-1: Require development to reduce risks to life and property associated with earthquakes, liquefaction, erosion, landslides, and unstable soil conditions.

SA 1-2: Ensure that all new development and construction is in conformance with applicable building standards related to geologic and seismic safety.

SA 1-3: Require geotechnical investigations to be completed prior to approval of any public safety or other critical facilities, in order to ensure that these facilities are constructed in a way that mitigates site-specific seismic and/or geologic hazards.

SA 1-4: Development in areas subject to unstable soil and/or geologic conditions shall be reviewed by qualified engineers and or geologists prior to development in order to ensure the safety and stability of all new construction.

SA 1-5: Prevent land subsidence and maintain adequate groundwater supplies.

SA 1-6: Require erosion and sediment control plans for development proposed on sloping land or lands subject to erosion.

SAFETY ELEMENT ACTIONS

Action SA-1a: Require adherence to the requirements of the California Code of Regulations (CCR), Title 24 during the plan check review process.

Action SA-1b: Periodically review the structural integrity of all existing County-owned critical facilities and, if any facilities are found unsatisfactory, take steps to ensure structural integrity and safety.

Action SA-1c: Continue to maintain and provide an inventory of all natural hazards, including active faults, Alquist-Priolo Special Study Zones, floodplains, hazardous soil conditions, and dam failure inundation areas.

Action SA-1d: Require the submission of geologic and soils reports for all new developments. The geologic risk areas that are determined from these studies shall have standards established and recommendations shall be incorporated into development.

Action SA-1e: Monitor withdrawal of groundwater and gas, maintain land elevation records, and regulate overdraft to prevent subsidence.

Impact 3.6-2: General Plan implementation has the potential to result in substantial soil erosion or the loss of topsoil (Less than Significant)

The General Plan would allow for future development and improvement projects that would involve some land clearing, grading, and other ground-disturbing activities that could temporarily increase soil erosion rates during and shortly after project construction. Construction-related erosion could result in the loss of a substantial amount of nonrenewable topsoil and could adversely affect water quality in nearby surface waters.

As future development and infrastructure projects are considered by the County, each project will be evaluated for conformance with the CBSC, General Plan, Zoning Ordinance, and other regulations. In addition to compliance with State and County standards and policies, the Regional Water Quality Control Board will require a project specific Storm Water Pollution Prevention Plan (SWPPP) to be prepared for each project that disturbs an area of one acre or larger. The SWPPPs will include project specific best management measures that are designed to control drainage and erosion. Subsequent development and infrastructure projects would also be analyzed for potential environmental impacts, consistent with the requirements of CEQA.

3.6 GEOLOGY AND SOILS

Additionally, the General Plan includes a range of policies and one action related to best management practices, NPDES requirements, and minimizing discharge of materials (including eroded soils) into the storm drain system. With the implementation of the policies and actions in the General Plan, as well as applicable State and County requirements, potential impacts associated with erosion and loss of topsoil would be **less than significant**.

GENERAL PLAN POLICIES AND ACTIONS THAT MINIMIZE POTENTIAL IMPACTS

SAFETY ELEMENT POLICIES

SA 1-1 Require development to reduce risks to life and property associated with earthquakes, liquefaction, erosion, landslides, and unstable soil conditions.

SA 1-6 Require erosion and sediment control plans for development proposed on sloping land or lands subject to erosion.

SA 2-7 Ensure that any development activity that requires a grading permit does not impact adjacent properties, local creeks and storm drainage systems by designing and building the site to drain properly to minimize drainage issues, erosion, and sedimentation.

SA 2-9 Ensure that adequate drainage and erosion control measures are provided during construction of all new development.

AGRICULTURAL ELEMENT POLICIES

AG 8-9 No confined animal facility shall be constructed or expanded in a manner which, or in an area in which, its construction or expansion will substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner that would result in substantial erosion or siltation on- or off-site; or substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river; or substantially increase the rate or amount of surface runoff in a manner that would result in flooding on- or off-site.

SAFETY ELEMENT ACTIONS

Action SA-2a As part of the development review process require new development projects to prepare hydraulic and storm drainage studies as necessary to define the net increase in storm water run-off resulting from construction and require mitigation to reduce impacts. Drainage and grading plans shall identify best management practices (BMP) protections and include standards established and recommended by the County that shall be incorporated into development.

Action SA-2b Require property owners and farmers to demonstrate that significant land alterations and site grading will not result in offsite flooding or changes in drainage patterns that would lead to offsite flooding, such as increases in runoff volume or velocity. Grading projects that affect five or more acres shall be required to obtain a land leveling permit from the Department of Public Works.

COMMUNITY SERVICES AND FACILITIES ELEMENT ACTIONS

Action CSF-3a Continue to review development projects and other activities that result in grading or land alterations to areas greater than one acre to identify potential stormwater and drainage impacts. Projects should analyze their drainage and stormwater conveyance impacts and either demonstrate that the existing infrastructure can accommodate increased stormwater flows, or make the necessary improvements to mitigate potential impacts.

Action CSF-3c Continue to implement the requirements established by the State Water Resource Control Board's (SWRCB) National Pollutant Discharge Elimination System (NPDES) General Permit requirements including the requirements to prepare a Stormwater Pollution Prevention Plan (SWPPP) during construction activities and grading projects that disturb more than 1 acre of land area.

Impact 3.6-3: General Plan implementation has the potential to result in development located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse (Less than Significant)

Development allowed under the General Plan could result in the exposure of people and structures to conditions that have the potential for adverse effects associated with ground instability or failure. Soils and geologic conditions in the Glenn County Planning Area have the potential for landslides, lateral spreading, subsidence, liquefaction, or collapse. Each are discussed below:

Landslide: Glenn County is generally flat; therefore, the potential for landslides is generally low. The areas of highest apparent landslide potential in the county generally correlate with relief. Those areas having the highest potential occur in the mountainous western portion of the County, while lower potential areas occur in the lower relief eastern portion of the Planning Area.

Lateral Spreading: Lateral spreading generally is a phenomenon where blocks of intact, non-liquefied soil move down slope on a liquefied substrate of large areal extent. The potential for lateral spreading is present where open banks and unsupported cut slopes provide a free face (unsupported vertical slope face). Ground shaking, especially when inducing liquefaction, may cause lateral spreading toward unsupported slopes. The potential for liquefaction is moderate to high in many areas of the county, however because the Planning Area is generally flat lateral spreading of soils has not been observed within the Planning Area.

Subsidence: Land subsidence is the gradual settling or sinking of an area with little or no horizontal motion due to changes taking place underground. It is a natural process, although it can also occur (and is greatly accelerated) as a result of human activities. Common causes of land subsidence from human activity include: pumping water, oil, and gas from underground reservoirs; dissolution of limestone aquifers (sinkholes); collapse of underground mines; drainage of organic soils; and initial wetting of dry soils. Known and potential subsidence areas occur in the eastern portion of the county where extensive groundwater withdrawals have occurred. Extraction of natural gas from reservoirs located in these same areas can also contribute to local subsidence of the land surface.

Liquefaction: Liquefaction typically requires a significant sudden decrease of shearing resistance in cohesionless soils and a sudden increase in water pressure, which is typically associated with an earthquake of high magnitude. The potential for liquefaction is highest when groundwater levels are high, and loose, fine, sandy soils occur at depths of less than 50 feet. Soil data from the NRCS Web Soil Survey (NRCS 2019) suggests that the potential for liquefaction ranges from low to high within the Planning Area given that many soils are high in sand and the water table is moderately high.

Collapsible Soils: Collapsible soils undergo a rearrangement of their grains and a loss of cementation, resulting in substantial and rapid settlement under relatively low loads. Collapsible soils occur predominantly at the base of mountain ranges, where Holocene-age alluvial fan and wash sediments have been deposited during rapid run-off events. Differential settlement of structures typically occurs when heavily irrigated landscape areas are near a building foundation. Examples of common problems associated with collapsible soils include tilting floors, cracking or separation in structures, sagging floors, and nonfunctional windows and doors. Collapsible soils have not been identified in the County as an issue. However, in areas subject to potential liquefaction, the potential for liquefaction induced settlement is present.

Conclusion: Unstable geologic units could be present within the Planning Area. As previously noted, development sites in the Planning Area may be at risk for seismically induced landslide and liquefaction, especially in the mountainous western portion of the Planning Area. As future development and infrastructure projects are considered by the Glenn County, each project will be evaluated for conformance with the CBSC, the General Plan, Zoning Ordinance, and other regulations. Subsequent development and infrastructure projects would also be analyzed for potential environmental impacts, consistent with the requirements of CEQA. Future development and improvement projects would be required to have a specific geotechnical study prepared and incorporated into the improvement design, consistent with the requirements of the State and local codes. In addition to the requirements associated with the CBSC, the General Plan includes policies and actions to ensure that development projects address potential geologic hazards, at-risk buildings and infrastructure is evaluated for potential risks, and site-specific studies are completed for area subject to liquefaction. With the implementation of the policies and actions in the General Plan, as well as applicable State and County codes, potential impacts associated with ground instability or failure would be **less than significant**.

GENERAL PLAN POLICIES AND ACTIONS THAT MINIMIZE POTENTIAL IMPACTS

See policies and actions identified in Impact 3.6-1

Impact 3.6-4: General Plan implementation has the potential to result in development on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property (Less than Significant)

Expansive soil properties can cause substantial damage to building foundations, piles, pavements, underground utilities, and/or other improvements. Structural damage, such as warping and cracking of improvements, and rupture of underground utility lines, may occur if the expansive potential of soils is not considered during the design and construction of all improvements.

Linear extensibility is a method for measuring expansion potential. The expansion potential is low if the soil has a linear extensibility of less than 3 percent; moderate if 3 to 6 percent; high if 6 to 9 percent; and very high if more than 9 percent. If the linear extensibility is more than 3, shrinking and swelling can cause damage to buildings, roads, and other structures and to plant roots. Special design commonly is needed.

The linear extensibility of the soils within Glenn County ranges from Low to Very High. Figure 3.6-3 illustrates the shrink-swell potential of soils in the Planning Area. The Planning Area has moderate to very high expansive soils, including areas of very high expansive soils in the vicinity of the I-5 corridor. The northern and western portions of the Planning Area have relatively low expansive soils. Most of areas within the Planning Area with low expansive soils are located on undeveloped land. The areas with moderate to high expansive soils would require special design considerations due to shrink-swell potentials.

As future development and infrastructure projects are considered by the County, each project will be evaluated for conformance with the CBSC, General Plan, Zoning Ordinance, and other applicable regulations. Subsequent development and infrastructure projects would also be analyzed for potential environmental impacts, consistent with the requirements of CEQA.

The Safety Element of the General Plan establishes policies that are designed to protect from geologic hazards, including expansive soils. Consistency with the General Plan policies will require identification of geologic hazards and risk inventory of existing at-risk buildings and infrastructure. As required by the CBSC, a site-specific geotechnical investigation will identify the potential for damage related to expansive soils and non-uniformly compacted fill and engineered fill. If a risk is identified, design criteria and specification options may include removal of the problematic soils, and replacement, as needed, with properly conditioned and compacted fill material that is designed to withstand the forces exerted during the expected shrink-swell cycles and settlements.

Design criteria and specifications set forth in the design-level geotechnical investigation will ensure impacts from problematic soils are minimized. There are no additional significant adverse environmental impacts, apart from those disclosed in the relevant chapters of this Draft EIR, that are anticipated to occur associated with expansive soils. Therefore, this impact is considered **less than significant**.

GENERAL PLAN POLICIES AND ACTIONS THAT MINIMIZE POTENTIAL IMPACTS

See policies and actions identified in Impact 3.6-1.

Impact 3.6-5: General Plan implementation does not have the potential to have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water (Less than Significant)

Future construction and development within the Planning Area allowed by the proposed General Plan would require the use of septic tanks or alternative wastewater disposal systems. In some areas of the county including North Willows and Hamilton City wastewater would be discharged into the existing public sanitary sewer system in the Planning Area, while other rural areas would require the use of septic systems.

As discussed in Section 3.15 of this DEIR, adequate sewer system capacity provided and ensured through implementation and periodic auditing of the Sewer System , as well as sewer related capital improvements, and by requiring development served by local sewer infrastructure to pay their fair share for system upgrades. General Plan Policy LU 2-15 requires new development projects to connect to existing community utility service systems (such as sewer) when such systems are reasonably available to a project site, and Action CSF-2d requires new development to provide for and fund a fair share of the costs for adequate sewer distribution, including line extensions, easements, and plant expansions.

In rural areas of the county and in areas not currently served by sewer services on-site wastewater improvements including septic systems would be required. The General Plan includes policies and actions (included below) to ensure local onsite treatment and septic systems safe, efficient, and suitable to serve the proposed developments. Additionally, as described in the regulatory setting, standards for any septic tanks or alternative waste water disposal systems utilized for development within the planning area would require the County health permit and review. Therefore, this impact is considered **less than significant**.

GENERAL PLAN POLICIES AND ACTIONS THAT MINIMIZE POTENTIAL IMPACTS

UTILITIES AND COMMUNITY SERVICES ELEMENT POLICIES

CSF 2-8: For projects that will rely upon on-site wastewater systems, applicants shall provide detailed plans demonstrating that the system will be adequate to serve the project and will meet or exceed all applicable water quality standards.

CSF 2-9: Ensure new septic systems are designed and located to protect water resources and agricultural lands.

CSF 2-10: Consider septic system and septage disposal limitations when determining areas suitable for new development not served by sewer.

CSF 2-11: Require new development within urban limit lines to connect to sewer and water services when available, and discourage installation of septic tanks in all urban areas. When sewer and water services are not immediately available, commitments to serve in the future shall be obtained from service providers prior to development approval.

UTILITIES AND COMMUNITY SERVICES ELEMENT ACTIONS

Action CSF-2a: Continue to utilize and enforce the Glenn County Administrative Code for sewage disposal and on-site septic system requirements, including requirements for septic application, site evaluation, soil conditions, percolation testing, verification and monitoring and other site requirements and conditions.

Action CSF-2b: Amend the County Administrative Code (Title 15 Chapter 15.660) to include septic and leach field setbacks from natural waterways. This setback should be a minimum 100 feet from perennial and intermittent streams, seasonal water bodies and natural bodies of standing water. Exceptions may be made if the project involves the repair of an existing system or the system is properly engineered and approved by the Department of Environmental Health.

Action CSF-2c: Monitor ongoing changes and updates to State regulations for septic systems developed by the State Regional Water Quality Control Board, as required by AB 885, and periodically update the County Code to reflect applicable changes in regulations.

Impact 3.6-6: General Plan implementation has the potential to directly or indirectly destroy a unique paleontological resource or site or unique geologic feature (Less than Significant)

DEFINITION OF SIGNIFICANCE FOR PALEONTOLOGICAL RESOURCES

Only qualified, trained paleontologists with specific expertise in the type of fossils being evaluated can determine the scientific significance of paleontological resources. Fossils are considered to be significant if one or more of the following criteria apply:

1. The fossils provide information on the evolutionary relationships and developmental trends among organisms, living or extinct;
2. The fossils provide data useful in determining the age(s) of the rock unit or sedimentary stratum, including data important in determining the depositional history of the region and the timing of geologic events therein;
3. The fossils provide data regarding the development of biological communities or interaction between paleobotanical and paleozoological biotas;
4. The fossils demonstrate unusual or spectacular circumstances in the history of life;
5. The fossils are in short supply and/or in danger of being depleted or destroyed by the elements, vandalism, or commercial exploitation, and are not found in other geographic locations.
6. All identifiable vertebrate fossils are considered significant due to the rarity of their preservation.

As so defined, significant paleontological resources are determined to be fossils or assemblages of fossils that are unique, unusual, rare, uncommon, or diagnostically important. Significant fossils can include remains of large to very small aquatic and terrestrial vertebrates or remains of plants and invertebrate animals previously not represented in certain portions of the stratigraphy. Assemblages of fossils that might aid stratigraphic correlation, particularly those offering data for the interpretation of tectonic events, geomorphologic evolution, and paleoclimatology are also critically important.

There could be fossils of potential scientific significance and other unique geologic features that remain undiscovered or are not recorded. Ground-disturbing construction associated with development allowed under the proposed General Plan could uncover previously unknown resources. Damage to or destruction of a paleontological resource would be considered a potentially significant impact under local, state, or federal criteria. Implementation of the proposed General Plan policies and actions (included below) would ensure steps would be taken to minimize impacts to paleontological resources in the event that they are discovered during construction and thus, General Plan implementation would result in a **less-than-significant** impact relative to this environmental topic.

GENERAL PLAN POLICIES AND ACTIONS THAT MINIMIZE POTENTIAL IMPACTS

CONSERVATION AND OPEN SPACE ELEMENT POLICIES

COS 2-1 Review proposed developments and infrastructure improvements in conjunction with the California Historical Resources Information System, Northwest Information Center to determine whether project areas contain known archaeological resources, either prehistoric and/or historic-era, or have the potential for such resources.

COS 2-2 If found during construction, ensure that human remains are treated with sensitivity and dignity, and ensure compliance with the provisions of California Health and Safety Code Section 7050.5 and California Public Resources Code Section 5097.98.

COS 2-3 Work with Native American representatives to identify and appropriately address, through avoidance or mitigation, impacts to Native American cultural resources and sacred sites during the development review process consistent with State and Federal requirements.

COS 2-4 Provide readily available public information on the Mills Act and encourage people to renovate historic homes in disrepair using property tax savings available through the Mills Act.

CONSERVATION AND OPEN SPACE ELEMENT ACTIONS

Action COS-2a Require a cultural and archaeological survey prior to approval of any project which would require excavation in an area that is sensitive for cultural or archaeological resources. If significant cultural or archaeological resources, including historic and prehistoric resources, are identified, appropriate measures shall be implemented, such as documentation and conservation, to reduce adverse impacts to the resource.

Action COS-2b Require all development, infrastructure, and other ground-disturbing projects to comply with the following conditions in the event of an inadvertent discovery of cultural resources or human remains:

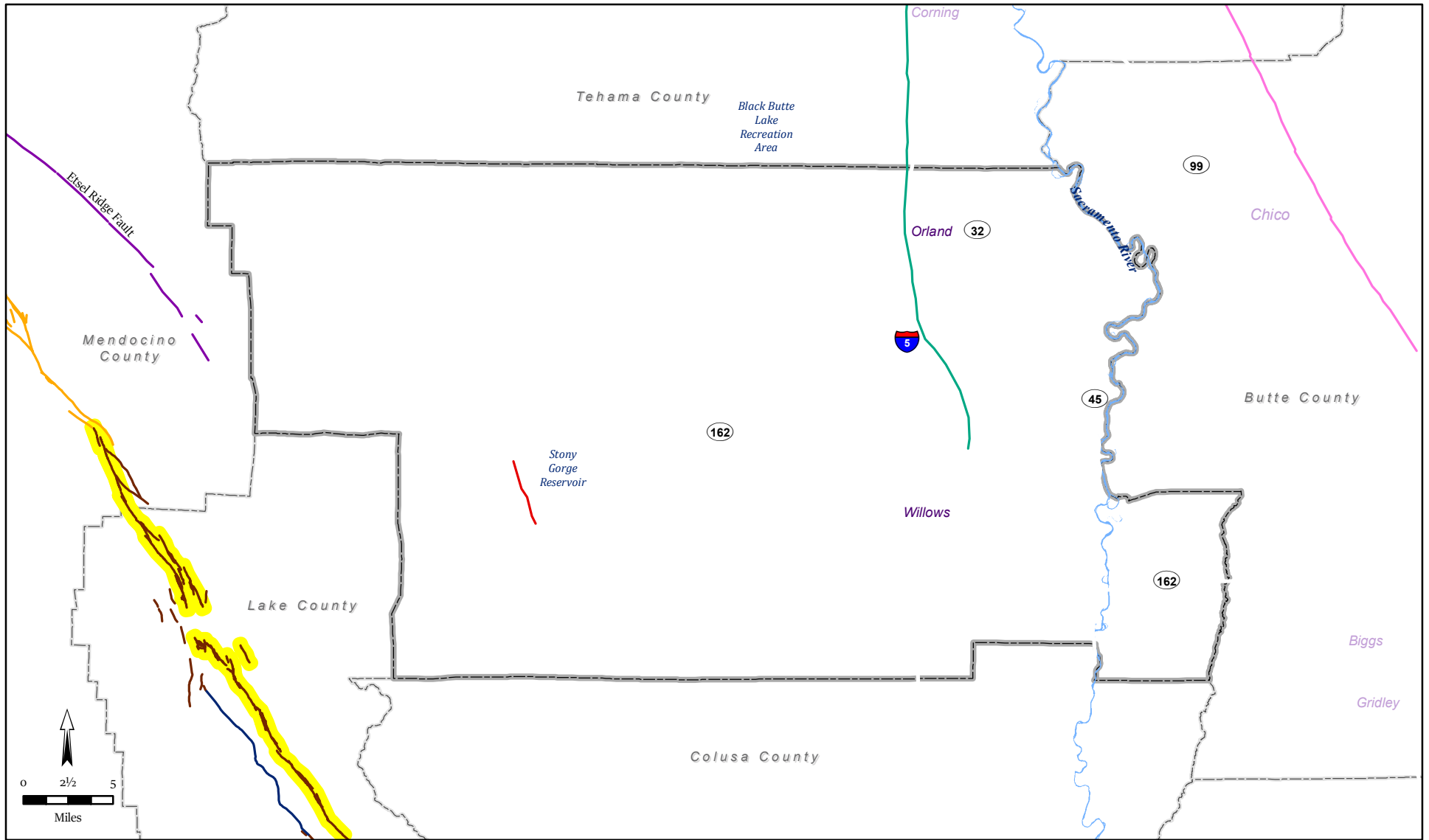
- a) If construction or grading activities result in the discovery of significant historic or prehistoric archaeological artifacts or unique paleontological resources, all work within 100 feet of the discovery shall cease, the County Planning and Community Development Services Agency shall be notified, the resources shall be examined by a qualified archaeologist, paleontologist, or historian for appropriate protection and preservation measures; and work may only resume when appropriate protections are in place and have been approved by the County Planning and Community Development Services Agency.
- b) If human remains are discovered during any ground disturbing activity, work shall stop until the County Sheriff and Coroner and County Planning and Community Development Services Agency have been contacted; if the human remains are determined to be of Native American origin, the Native American Heritage Commission (NAHC) and the most likely descendants have been consulted; and work may only resume when appropriate measures have been taken and approved by the County Planning and Community Development Services Agency.

Action COS-2c Consistent with State, local, and tribal intergovernmental consultation requirements such as SB 18 and AB 52, the County shall consult as necessary with Native American tribes that may be interested in proposed new development projects and land use policy changes.

Action COS-2d Provide educational resources and public outreach efforts that inform citizens of historical preservation efforts including:

- School age programs, and on-line exhibits;
Collaboration with community groups, and educational institutions to promote local awareness and appreciation of the County's rich history.

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Sources: USGS Quaternary faults database. Map date: June 27, 2019.

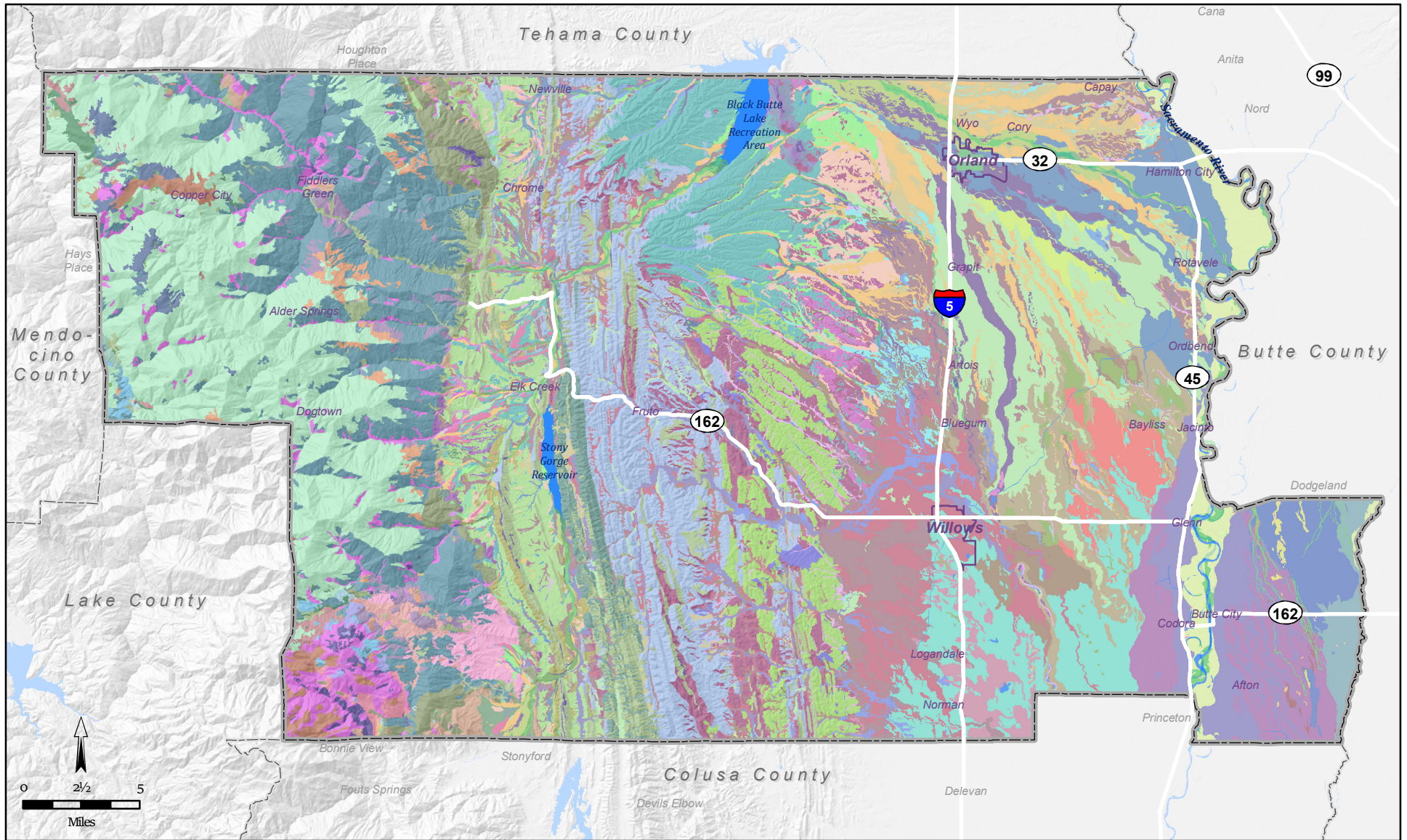
COUNTY OF GLENN, CALIFORNIA

Legend

- Bartlett Springs fault
- Hot Springs shear zone
- Etsel Ridge fault
- Round Valley fault
- Chico Monocline
- Corning fault
- Stoney Creek fault
- Alquist-Priolo Zone

FIGURE 3.6-1. EARTHQUAKE FAULTS

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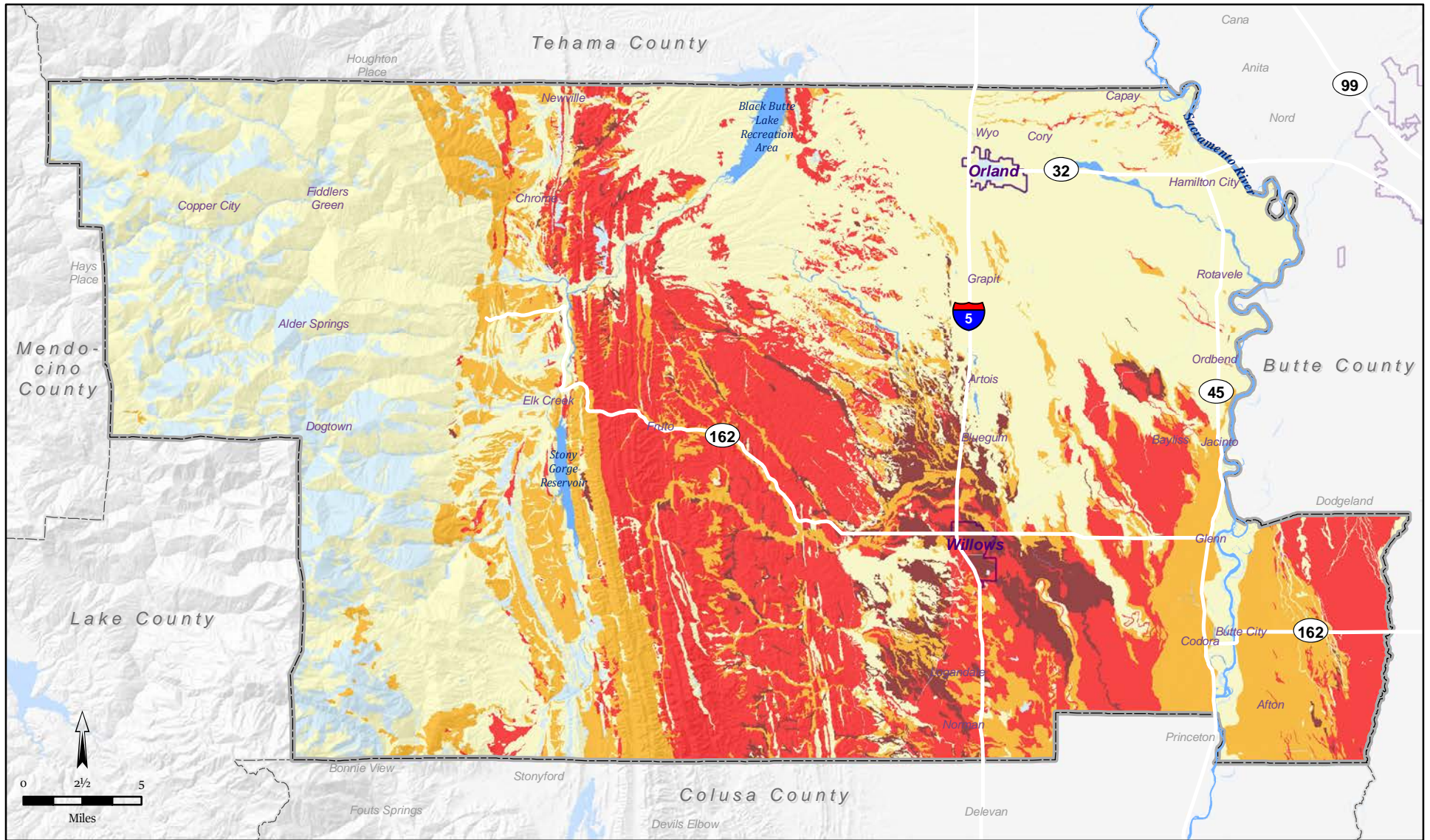
COUNTY OF GLENN, CALIFORNIA

FIGURE 3.6-2. SOILS

See legend on next page.

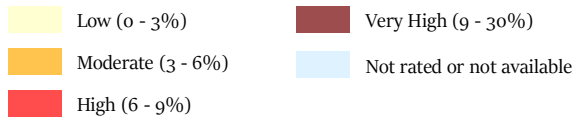
Legend

- 
- | | |
|------------------------------|--|
| Alluvial lands | Millsholm loams and complexes |
| Altamont | Milsap loams |
| Arbuckle loam | Moda loam |
| Artois loam | Montara clay |
| Ayar clay | Myers clays, loams, and complexes |
| Burriss clay | Nacimientos loams, soils, complexes and associations |
| Capay clay | Neuns loams and complexes |
| Castro clay | Newville loams and complexes |
| Clear Lake clay | Orland |
| Colluvial Land | Orland loams and complexes |
| Columbia loams and sands | Parrish loams and complexes |
| Contra Costa clay loams | Perkins loams |
| Corning land complexes | Plaza loams |
| Corning loams | Pleasanton loams |
| Cortina loams | Polebar loams and complexes |
| Dubakella stony loam | Porterville Clays |
| East park clay | Redding gravelly loam |
| Eroded land | Riverwash |
| Goulding rocky loam | Riz loams |
| Gravel pits | Rock land and outcrop |
| Henneke stony clay loam | Sacramento clay |
| Hillgate loams and complexes | Sehorn soils, complexes, and associations |
| Hohmann rocky loam | Shedd loams, complexes, and associations |
| Hugo loam | Sheetiron loams and complexes |
| Hulls gravelly loam | Stockton clays |
| Jacinto loams | Stonyford clays, loams, and complexes |
| Josephine loams | Sunnyvale clays and loams |
| Kimball loams and complexes | Tehama loams and complexes |
| Landlow clays and loams | Terrace escarpments |
| Landslides | Toomes loams and complexes |
| Lodo loams and complexes | Tyson loams |
| Los Gatos loams | Water |
| Los Osos-Yorkville complex | Willows clays |
| Madonna complex | Wyo loams |
| Marvin clays and loams | Yolo loams |
| Masterson loams | Yorkville loams |
| Maymen loams | Zamora clays and loams |
| Maywood loams | |



Sources: NRCS web soil survey, CA021 Glenn County, California, v14, 09/12/2018. Map date: June 27, 2019.

Shrink-Swell Potential of the Surface Horizon (Linear Extensibility%)*



*Shrink-Swell Potential is determined by linear extensibility. Linear extensibility refers to the change in length of an unconfined clod as moisture content is decreased from a moist to a dry state. Soils are considered to have low potential when the linear extensibility is less than 3%, moderate if 3-6%, high if 6-9%, and very high if greater than 9%.

COUNTY OF GLENN, CALIFORNIA

FIGURE 3.6-3. SHRINK-SWELL POTENTIAL OF SOILS

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This section discusses regional greenhouse gas (GHG) emissions, climate change, and energy conservation impacts that could result from implementation of the General Plan. This section provides a background discussion of greenhouse gases and climate change linkages and effects of global climate change.

This section also provides background discussion on energy use in Glenn County. This section is organized with an existing setting, regulatory setting, approach/methodology, and impact analysis.

The analysis and discussion of the GHG, climate change, and energy conservation impacts in this section focuses on the General Plan's consistency with local, regional, statewide, and federal climate change and energy conservation planning efforts and discusses the context of these planning efforts as they relate to the proposed project.

Emissions of GHGs have the potential to adversely affect the environment in a cumulative context. The emissions from a single project will not cause global climate change; however, GHG emissions from multiple projects throughout the world could result in a cumulative impact with respect to global climate change. Therefore, the analysis of GHGs and climate change presented in this section is presented in terms of the proposed project's contribution to cumulative impacts and potential to result in cumulatively considerable impacts related to GHGs and climate change.

No comments were received during the NOP comment period related to greenhouse gases, climate change, and/or energy.

3.7.1 ENVIRONMENTAL SETTING

GREENHOUSE GASES AND CLIMATE CHANGE LINKAGES

Various gases in the Earth's atmosphere, classified as atmospheric GHGs, play a critical role in determining the Earth's surface temperature. Solar radiation enters Earth's atmosphere from space, and a portion of the radiation is absorbed by the Earth's surface. The Earth emits this radiation back toward space, but the properties of the radiation change from high-frequency solar radiation to lower-frequency infrared radiation.

Naturally occurring greenhouse gases include water vapor (H₂O), carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), and ozone (O₃). Several classes of halogenated substances that contain fluorine, chlorine, or bromine are also greenhouse gases, but they are, for the most part, solely a product of industrial activities. Although the direct greenhouse gases CO₂, CH₄, and N₂O occur naturally in the atmosphere, human activities have changed their atmospheric concentrations. From the pre-industrial era (i.e., ending about 1750) to 2011, concentrations of these three greenhouse gases have increased globally by 40, 150, and 20 percent, respectively (IPCC, 2013).

Greenhouse gases, which are transparent to solar radiation, are effective in absorbing infrared radiation. As a result, this radiation that otherwise would have escaped back into space is now retained, resulting in a warming of the atmosphere. This phenomenon is known as the greenhouse

3.7 GREENHOUSE GASES, CLIMATE CHANGE, AND ENERGY

effect. Among the prominent GHGs contributing to the greenhouse effect are CO₂, CH₄, O₃, water vapor, N₂O, and chlorofluorocarbons (CFCs).

Emissions of GHGs contributing to global climate change are attributable in large part to human activities associated with the industrial/manufacturing, utility, transportation, residential, and agricultural sectors. In California, the transportation sector is the largest emitter of GHGs, followed by the industrial sector (California Energy Commission, 2019b).

As the name implies, global climate change is a global problem. GHGs are global pollutants, unlike criteria air pollutants and toxic air contaminants, which are pollutants of regional and local concern, respectively. California produced approximately 424 million gross metric tons of carbon dioxide equivalents (MMTCO₂e) in 2017 (California Energy Commission, 2019b). To meet the annual statewide targets set by the California Air Resources Board, California emissions need to be below 431 MMTCO₂e by 2020, and to below 260 MMTCO₂e by 2030 (California Air Resources Board, 2017).

Carbon dioxide equivalents are a measurement used to account for the fact that different GHGs have different potential to retain infrared radiation in the atmosphere and contribute to the greenhouse effect. This potential, known as the global warming potential of a GHG, is also dependent on the lifetime, or persistence, of the gas molecule in the atmosphere. Expressing GHG emissions in carbon dioxide equivalents takes the contribution of all GHG emissions to the greenhouse effect and converts them to a single unit equivalent to the effect that would occur if only CO₂ were being emitted.

Consumption of fossil fuels in the transportation sector was the single largest source of California's GHG emissions in 2017, accounting for 41% of total GHG emissions in the state. This category was followed by the industrial sector (24%), the electricity generation sector (including both in-state and out of-state sources) (15%), the agriculture and forestry sector (8%), the residential energy consumption sector (7%), and the commercial energy consumption sector (5%) (California Energy Commission, 2019b).

EFFECTS OF GLOBAL CLIMATE CHANGE

The effects of increasing global temperature are far-reaching and extremely difficult to quantify. The scientific community continues to study the effects of global climate change. In general, increases in the ambient global temperature as a result of increased GHGs are anticipated to result in rising sea levels, which could threaten coastal areas through accelerated coastal erosion, threats to levees and inland water systems and disruption to coastal wetlands and habitat.

If the temperature of the ocean warms, it is anticipated that the winter snow season would be shortened. Snowpack in the Sierra Nevada provides both water supply (runoff) and storage (within the snowpack before melting), which is a major source of water supply for the state. The snowpack portion of the supply could potentially decline by 50% to 75% by the end of the 21st century (National Resources Defense Council, 2014). This phenomenon could lead to significant challenges securing an adequate water supply for a growing state population. Further, the increased ocean temperature could result in increased moisture flux into the state; however, since this would likely increasingly come in the form of rain rather than snow in the high elevations, increased precipitation

could lead to increased potential and severity of flood events, placing more pressure on California's levee/flood control system.

Sea level has risen approximately seven inches during the last century and it is predicted to rise an additional 22 to 35 inches by 2100, depending on the future GHG emissions levels (California Environmental Protection Agency, 2010). If this occurs, resultant effects could include increased coastal flooding, saltwater intrusion and disruption of wetlands. As the existing climate throughout California changes over time, mass migration of species, or failure of species to migrate in time to adapt to the perturbations in climate, could also result. According to the most recent California Climate Change Assessment (*California's Fourth Climate Change Assessment*) (2019), the impacts of global warming in California are anticipated to include, but are not limited to, the following.

Wildfires

In recent years, the area burned by wildfires has increased in parallel with increasing air temperatures. Wildfires have also been occurring at higher elevations in the Sierra Nevada mountains, a trend which is expected to continue under future climate change. Climate change will likely modify the vegetation in California, affecting the characteristics of fires on the land. Land use and development patterns also play an important role in future fire activity. Because of these complexities, projecting future wildfires is complicated, and results depend on the time period for the projection and what interacting factors are included in the analysis. Because wildfires are affected by multiple and sometimes complex drivers, projections of wildfire in future decades in California range from modest changes from historical conditions to relatively large increases in wildfire regimes.

Public Health

Higher temperatures are expected to increase the frequency, duration, and intensity of conditions conducive to air pollution formation. Climate change poses direct and indirect risks to public health, as people will experience earlier death and worsening illnesses. Air quality could be further compromised by increases in wildfires, which emit fine particulate matter that can travel long distances depending on wind conditions.

Energy Resources

Higher temperatures will increase annual electricity demand for homes, driven mainly by the increased use of air conditioning units. High demand is projected in inland and Southern California, and more moderate increases are projected in cooler coastal areas. However, the increased annual residential energy demand for electricity is expected to be offset by reduced use of natural gas for space heating. Increases in peak hourly demand during the hot months of the year could be more pronounced than changes in annual demand. This is a critical finding for California's electric system, because generating capacity must match peak electricity demand.

Water Supply

A vast network of man-made reservoirs and aqueducts capture and transport water throughout the state from northern California rivers and the Colorado River. The current distribution system relies

on Sierra Nevada snow pack to supply water during the dry spring and summer months. Rising temperatures, potentially compounded by decreases in precipitation, could severely reduce spring snow pack, increasing the risk of summer water shortages.

The state's water supplies are also at risk from rising sea levels. An influx of saltwater would degrade California's estuaries, wetlands, and groundwater aquifers. Saltwater intrusion caused by rising sea levels is a major threat to the quality and reliability of water within the southern edge of the Sacramento/San Joaquin River Delta, a major state fresh water supply.

Current management practices for water supply and flood management in California may need to be revised for a changing climate. This is in part because such practices were designed for historical climatic conditions, which are changing and will continue to change during the rest of this century and beyond. As one example, the reduction in the Sierra Nevada snowpack, which provides natural water storage, will have implications throughout California's water management system. Even under the wetter climate projections, the loss of snow pack would pose challenges to water managers, hamper hydropower generation, and nearly eliminate all skiing and other snow-related recreational activities.

Agriculture

Increased GHG emissions are expected to cause widespread changes to the agriculture industry reducing the quantity and quality of agricultural products statewide. Although higher carbon dioxide levels can stimulate plant production and increase plant water-use efficiency, California's farmers will face greater water demand for crops and a less reliable water supply as temperatures rise.

Plant growth tends to be slow at low temperatures, increasing with rising temperatures up to a threshold. However, faster growth can result in less-than-optimal development for many crops, so rising temperatures are likely to worsen the quantity and quality of yield for a number of California's agricultural products. Products likely to be most affected include wine grapes, fruits and nuts, and milk.

Crop growth and development will be affected, as will the intensity and frequency of pest and disease outbreaks. Rising temperatures will likely aggravate ozone pollution, which makes plants more susceptible to disease and pests and interferes with plant growth.

In addition, continued global warming will likely shift the ranges of existing invasive plants and weeds and alter competition patterns with native plants. Range expansion is expected in many species while range contractions are less likely in rapidly evolving species with significant populations already established. Should range contractions occur, it is likely that new or different weed species will fill the emerging gaps. Continued global warming is also likely to alter the abundance and types of many pests, lengthen pests' breeding season, and increase pathogen growth rates.

Forests and Landscapes

Climate change will make forests more susceptible to extreme wildfires. *California's Fourth Climate Change Assessment* found that by 2100, if greenhouse gas emissions continue to rise, the frequency

of extreme wildfires burning over approximately 25,000 acres would increase by nearly 50 percent, and that average area burned statewide would increase by 77 percent by the end of the century. In the areas that have the highest fire risk, wildfire insurance is estimated to see costs rise by 18 percent by 2055 and the fraction of property insured would decrease.

Moreover, continued global warming will alter natural ecosystems and biological diversity within the state. For example, alpine and sub-alpine ecosystems are expected to decline by as much as 60% to 80% by the end of the century as a result of increasing temperatures. The productivity of the state's forests is also expected to decrease as a result of global warming.

Rising Sea Levels

Climate change could cause the San Francisco Bay to rise 12 to 24 inches by mid-century and by 36 to 66 inches by end-of-century.¹ This means that today's floods will likely be the future's high tides and areas that currently flood every 10 to 20 years could be inundated more frequently.

Statewide damages could reach nearly \$17.9 billion from inundation of residential and commercial buildings under 50 centimeters (~20 inches) of sea-level rise, which is close to the 95th percentile of potential sea-level rise by the middle of this century. A 100-year coastal flood, on top of this level of sea-level rise, would almost double the costs.

Rising sea levels, more intense coastal storms, and warmer water temperatures will increasingly threaten the state's coastal regions. Rising sea levels would inundate coastal areas with saltwater, accelerate coastal erosion, threaten vital levees and inland water systems, and disrupt wetlands and natural habitats.

ENERGY CONSUMPTION

Energy in California is consumed from a wide variety of sources. Fossil fuels (including gasoline and diesel fuel, natural gas, and energy used to generate electricity) are the most widely used form of energy in the State. However, renewable sources of energy (such as solar and wind) are growing in proportion to California's overall energy mix. A large driver of renewable sources of energy in California is the State's current Renewable Portfolio Standard (RPS), which requires the State to derive at least 33% of electricity generated from renewable resources by 2020, and 60 percent by 2030. Additionally, SB 100, which was signed into law in 2018, requires all of the State's electricity to come from carbon-free sources by 2045.

Overall, in 2017, California's per capita energy usage was ranked 48th in the nation (U.S. EIA, 2018). Additionally, California's per capita rate of energy usage has remained relatively constant since the 1970's. Many State regulations since the 1970's, including new building energy efficiency standards,

¹ Sea-Level Rise for the Coasts of California, Oregon, and Washington: Past, Present, and Future, National Research Council 2012 <http://www.nap.edu/catalog/13389/sealevel-rise-for-the-coasts-of-california-oregon-and-washington>

vehicle fleet efficiency measures, as well as growing public awareness, have helped to keep per capita energy usage in the State in check.

The consumption of nonrenewable energy (primarily gasoline and diesel fuel) associated with the operation of passenger, public transit, and commercial vehicles results in GHG emissions that ultimately result in global climate change. Other fuels such as natural gas, ethanol, and electricity (unless derived from solar, wind, nuclear, or other energy sources that do not produce carbon emissions) also result in GHG emissions and contribute to global climate change.

Electricity Consumption

California relies on a regional power system composed of a diverse mix of natural gas, renewable, hydroelectric, and nuclear generation resources. Approximately 71 percent of the electrical power needed to meet California's demand is produced in the state. Approximately 29 percent of its electricity is imported from the Pacific Northwest and the Southwest (California Energy Commission, 2019b). In 2010, California's in-state generated electricity was derived from natural gas (53.4 percent), large hydroelectric resources (14.6 percent), coal (1.7 percent), nuclear sources (15.7 percent), and renewable resources that include geothermal, biomass, small hydroelectric resources, wind, and solar (14.6 percent) (California Energy Commission, 2019b). The percentage of renewable resources as a proportion of California's overall energy portfolio is increasing over time, as directed the State's Renewable Portfolio Standard (RPS).

According to the California Energy Commission (CEC), total statewide electricity consumption increased from 166,979 gigawatt-hours (GWh) in 1980 to 228,038 GWh in 1990, which is an estimated annual growth rate of 3.76 percent. The statewide electricity consumption in 1997 was 246,225 GWh, reflecting an annual growth rate of 1.14 percent between 1990 and 1997 (California Energy Commission, 2019b). Statewide consumption was 274,985 GWh in 2010, an annual growth rate of 0.9 percent between 1997 and 2010. Glenn County consumed approximately 431.2 GWh in 2020.

Oil

The primary energy source for the United States is oil, which is refined to produce fuels like gasoline, diesel, and jet fuel. Oil is a finite, nonrenewable energy source. World consumption of petroleum products has grown steadily in the last several decades. As of 2018, world consumption of oil had reached 100 million barrels per day (U.S. EIA, 2019a). The United States, with approximately five percent of the world's population, accounts for approximately 21 percent of world oil consumption, or approximately 20.5 million barrels per day (U.S. EIA, 2019b). The transportation sector relies heavily on oil. In California, petroleum-based fuels currently provide approximately 96 percent of the state's transportation energy needs (California Energy Commission, 2018).

Natural Gas

Natural gas supplies are derived from underground sources and brought to the surface at gas wells. Once it is extracted, gas is purified and the odorant that allows gas leaks to be detected is added to the normally odorless gas. Natural gas suppliers, such as Pacific Gas & Electric Company (PG&E),

then send the gas into transmission pipelines, which are usually buried underground. Compressors propel the gas through the pipeline system, which delivers it to homes and businesses.

The state produces approximately 12 percent of its natural gas, while obtaining 22 percent from Canada and 65 percent from the Rockies and the Southwest (California Energy Commission, 2018). In 2006, California produced 325.6 billion cubic feet of natural gas (California Energy Commission, 2019a). PG&E provides natural gas for residential, industrial, and agency consumers within Glenn County.

3.7.2 REGULATORY SETTING

FEDERAL

Clean Air Act

The Federal Clean Air Act (FCAA) was first signed into law in 1970. In 1977, and again in 1990, the law was substantially amended. The FCAA is the foundation for a national air pollution control effort, and it is composed of the following basic elements: National ambient air quality standards (NAAQS) for criteria air pollutants, hazardous air pollutant standards, state attainment plans, motor vehicle emissions standards, stationary source emissions standards and permits, acid rain control measures, stratospheric ozone protection, and enforcement provisions.

The U.S. Environmental Protection Agency (USEPA) is responsible for administering the FCAA. The FCAA requires the USEPA to set NAAQS for several problem air pollutants based on human health and welfare criteria. Two types of NAAQS were established: primary standards, which protect public health, and secondary standards, which protect the public welfare from non-health-related adverse effects such as visibility reduction.

Energy Policy and Conservation Act

The Energy Policy and Conservation Act of 1975 sought to ensure that all vehicles sold in the U.S. would meet certain fuel economy goals. Through this Act, Congress established the first fuel economy standards for on-road motor vehicles in the United States. Pursuant to the Act, the National Highway Traffic and Safety Administration, which is part of the U.S. Department of Transportation (USDOT), 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 mpg. Since 1996, the fuel economy standard for new light trucks (gross vehicle weight of 8,500 pounds or less) has been 20.7 mpg. 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 determined on the basis of each manufacturer's average fuel economy for the portion of its vehicles produced for sale in the U.S. The Corporate Average Fuel Economy (CAFE) program, which is administered by the USEPA, was created to determine vehicle manufacturers' compliance with the fuel economy standards. The USEPA calculates a CAFE value for each manufacturer based on

city and highway fuel economy test results and vehicle sales. Based on the information generated under the CAFE program, the USDOT is authorized to assess penalties for noncompliance.

Energy Policy Act of 1992 (EPAct)

The Energy Policy Act of 1992 (EPAct) was passed to reduce the country's dependence on foreign petroleum and improve air quality. EPAct includes several parts intended to build an inventory of alternative fuel vehicles (AFVs) in large, centrally fueled fleets in metropolitan areas. EPAct requires certain federal, state, and local government and private fleets to purchase a percentage of light duty AFVs capable of running on alternative fuels each year. In addition, financial incentives are included in EPAct. Federal tax deductions will be allowed for businesses and individuals to cover the incremental cost of AFVs. States are also required by the act to consider a variety of incentive programs to help promote AFVs.

Energy Policy Act of 2005

The Energy Policy Act of 2005 was signed into law on August 8, 2005. Generally, the act provides for renewed and expanded tax credits for electricity generated by qualified energy sources, such as landfill gas; provides bond financing, tax incentives, grants, and loan guarantees for a clean renewable energy and rural community electrification; and establishes a federal purchase requirement for renewable energy.

Intermodal Surface Transportation Efficiency Act (ISTEA)

ISTEA (49 U.S.C. § 101 et seq.) promoted the development of intermodal transportation systems to maximize mobility as well as address national and local interests in air quality and energy. ISTEA contained factors that metropolitan planning organizations (MPOs), were to address in developing transportation plans and programs, including some energy-related factors. To meet the ISTEA requirements, MPOs adopted explicit policies defining the social, economic, energy, and environmental values that were to guide transportation decisions in that metropolitan area. The planning process was then to address these policies. Another requirement was to consider the consistency of transportation planning with federal, state, and local energy goals. Through this requirement, energy consumption was expected to become a criterion, along with cost and other values that determine the best transportation solution.

The Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU)

SAFETEA-LU (23 U.S.C. § 507), renewed the Transportation Equity Act for the 21st Century (TEA-21) of 1998 (23 U.S.C.; 49 U.S.C.) through FY 2009. SAFETEA-LU authorized the federal surface transportation programs for highways, highway safety, and transit. SAFETEA-LU addressed the many challenges facing our transportation system today—such as improving safety, reducing traffic congestion, improving efficiency in freight movement, increasing intermodal connectivity, and protecting the environment—as well as laying the groundwork for addressing future challenges. SAFETEA-LU promoted more efficient and effective federal surface transportation programs by focusing on transportation issues of national significance, while giving state and local transportation decision makers more flexibility to solve transportation problems in their communities. SAFETEA-LU

was extended in March of 2010 for nine months, and expired in December of the same year. In June 2012, SAFETEA-LU was replaced by the Moving Ahead for Progress in the 21st Century Act (MAP-21), which took effect October 1, 2012.

U.S. Federal Climate Change Policy

According to the USEPA, “the United States government has established a comprehensive policy to address climate change” that includes slowing the growth of emissions; strengthening science, technology, and institutions; and enhancing international cooperation. To implement this policy, “the Federal government is using voluntary and incentive-based programs to reduce emissions and has established programs to promote climate technology and science.” The federal government’s goal is to reduce the greenhouse gas (GHG) intensity (a measurement of GHG emissions per unit of economic activity) of the American economy by 18 percent over the 10-year period from 2002 to 2012. In addition, the EPA administers multiple programs that encourage voluntary GHG reductions, including “ENERGY STAR”, “Climate Leaders”, and Methane Voluntary Programs. However, as of this writing, there are no adopted federal plans, policies, regulations, or laws directly regulating GHG emissions.

Mandatory Greenhouse Gas Reporting Rule

On September 22, 2009, EPA issued a final rule for mandatory reporting of GHGs from large GHG emissions sources in the United States. In general, this national reporting requirement will provide USEPA with accurate and timely GHG emissions data from facilities that emit 25,000 metric tons or more of CO₂ per year. This publicly available data will allow the reporters to track their own emissions, compare them to similar facilities, and aid in identifying cost effective opportunities to reduce emissions in the future. Reporting is at the facility level, except that certain suppliers of fossil fuels and industrial greenhouse gases along with vehicle and engine manufacturers will report at the corporate level. An estimated 85% of the total U.S. GHG emissions, from approximately 10,000 facilities, are covered by this final rule.

STATE

Warren-Alquist Act

The 1975 Warren-Alquist Act established the California Energy Resources Conservation and Development Commission, now known as CEC. The Act established state policy to reduce wasteful, uneconomical, and unnecessary uses of energy by employing a range of measures. The California Public Utilities Commission (CPUC) regulates privately-owned utilities in the energy, rail, telecommunications, and water fields.

Energy Action Plan

The first Energy Action Plan (EAP) emerged in 2003 from a crisis atmosphere in California’s energy markets. The State’s three major energy policy agencies (CEC, CPUC, and the Consumer Power and Conservation Financing Authority [established under deregulation and now defunct]) came together to develop one high-level, coherent approach to meeting California’s electricity and natural gas

needs. It was the first time that energy policy agencies formally collaborated to define a common vision and set of strategies to address California's future energy needs and emphasize the importance of the impacts of energy policy on the California environment.

In the October 2005 Energy Action Plan II, CEC and CPUC updated their energy policy vision by adding some important dimensions to the policy areas included in the original EAP, such as the emerging importance of climate change, transportation-related energy issues, and research and development activities. The CEC adopted an update to the EAP II in February 2008 that supplements the earlier EAPs and examines the State's ongoing actions in the context of global climate change.

State of California Energy Action Plan

The CEC is responsible for preparing the State Energy Plan, which identifies emerging trends related to energy supply, demand, conservation, public health and safety, and the maintenance of a healthy economy. The current plan is the 1997 California Energy Plan. The plan calls for the State to assist in the transformation of the transportation system to improve air quality, reduce congestion, and increase the efficient use of fuel supplies with the least environmental and energy costs. To further this policy, the plan identifies a number of strategies, including assistance to public agencies and fleet operators in implementing incentive programs for zero-emission vehicles and addressing their infrastructure needs; and encouragement of urban design that reduces VMT and accommodates pedestrian and bicycle access.

Assembly Bill 1493

In response to AB 1493, the CARB approved amendments to the California Code of Regulations (CCR) adding GHG emission standards to California's existing motor vehicle emission standards. Amendments to CCR Title 13 Sections 1900 (CCR 13 1900) and 1961 (CCR 13 1961), and adoption of Section 1961.1 (CCR 13 1961.1) require automobile manufacturers to meet fleet average GHG emission limits for all passenger cars, light-duty trucks within various weight criteria, and medium-duty passenger vehicle weight classes beginning with the 2009 model year. Emission limits are further reduced each model year through 2016. For passenger cars and light-duty trucks 3,750 pounds or less loaded vehicle weight (LVW), the 2016 GHG emission limits are approximately 37 percent lower than during the first year of the regulations in 2009. For medium-duty passenger vehicles and light-duty trucks 3,751 LVW to 8,500 pounds gross vehicle weight (GVW), GHG emissions are reduced approximately 24 percent between 2009 and 2016.

The CARB requested a waiver of federal preemption of California's Greenhouse Gas Emissions Standards. The intent of the waiver is to allow California to enact emissions standards to reduce carbon dioxide and other greenhouse gas emissions from automobiles in accordance with the regulation amendments to the CCRs that fulfill the requirements of AB 1493. The U.S. EPA granted a waiver to California to implement its greenhouse gas emissions standards for cars.

Assembly Bill 1007

Assembly Bill 1007, (Pavley, Chapter 371, Statutes of 2005) directed the CEC to prepare a plan to increase the use of alternative fuels in California. As a result, the CEC prepared the State Alternative

Fuels Plan in consultation with the state, federal, and local agencies. The plan presents strategies and actions California must take to increase the use of alternative non-petroleum fuels in a manner that minimizes costs to California and maximizes the economic benefits of in-state production. The Plan assessed various alternative fuels and developed fuel portfolios to meet California's goals to reduce petroleum consumption, increase alternative fuels use, reduce greenhouse gas emissions, and increase in-state production of biofuels without causing a significant degradation of public health and environmental quality.

Bioenergy Action Plan – Executive Order #S-06-06

Executive Order #S-06-06 establishes targets for the use and production of biofuels and biopower and directs state agencies to work together to advance biomass programs in California while providing environmental protection and mitigation. The executive order establishes the following target to increase the production and use of bioenergy, including ethanol and biodiesel fuels made from renewable resources: produce a minimum of 20 percent of its biofuels within California by 2010, 40 percent by 2020, and 75 percent by 2050. The executive order also calls for the state to meet a target for use of biomass electricity.

California Executive Orders S-3-05 and S-20-06, and Assembly Bill 32

On June 1, 2005, Governor Arnold Schwarzenegger signed Executive Order S-3-05. The goal of this Executive Order is to reduce California's GHG emissions to: 1) 2000 levels by 2010, 2) 1990 levels by the 2020 and 3) 80% below the 1990 levels by the year 2050. EO-S-20-06 establishes responsibilities and roles of the Secretary of Cal/EPA and state agencies in climate change

In 2006, this goal was further reinforced with the passage of Assembly Bill 32 (AB 32), the Global Warming Solutions Act of 2006. AB 32 sets the same overall GHG emissions reduction goals while further mandating that the CARB create a plan, which includes market mechanisms, and implement rules to achieve "real, quantifiable, cost-effective reductions of greenhouse gases." Executive Order S-20-06 further directs state agencies to begin implementing AB 32, including the recommendations made by the state's Climate Action Team.

EO S-13-08

EO S-13-08 was issued on November 14, 2008. The EO is intended to hasten California's response to the impacts of global climate change, particularly sea level rise, and directs state agencies to take specified actions to assess and plan for such impacts, including requesting the National Academy of Sciences to prepare a Sea Level Rise Assessment Report, directing the Business, Transportation, and Housing Agency to assess the vulnerability of the State's transportation systems to sea level rise, and requiring the Office of Planning and Research and the Natural Resources Agency to provide land use planning guidance related to sea level rise and other climate change impacts.

The order also required State agencies to develop adaptation strategies to respond to the impacts of global climate change that are predicted to occur over the next 50 to 100 years. The adaption strategies report summarizes key climate change impacts to the State for the following areas: public health; ocean and coastal resources; water supply and flood protection; agriculture; forestry;

biodiversity and habitat; and transportation and energy infrastructure. The report recommends strategies and specific responsibilities related to water supply, planning and land use, public health, fire protection, and energy conservation.

Assembly Bill 32 - Climate Change Scoping Plan

On December 11, 2008, the CARB adopted its *Climate Change Scoping Plan* (Scoping Plan), which functions as a roadmap of the CARB's plans to achieve GHG reductions in California required by Assembly Bill (AB) 32 through subsequently enacted regulations. The Scoping Plan contains the main strategies California will implement to reduce carbon dioxide-equivalent (CO₂e) emissions by 169 million metric tons (MMT), or approximately 30 percent, from the state's projected 2020 emissions level of 596 MMT of CO₂e under a business-as-usual scenario. (This is a reduction of 42 MMT CO₂e, or almost 10 percent, from 2002–2004 average emissions, but requires the reductions in the face of population and economic growth through 2020.) The Scoping Plan also breaks down the amount of GHG emissions reductions the CARB recommends for each emissions sector of the state's GHG inventory. The Scoping Plan calls for the largest reductions in GHG emissions to be achieved by implementing the following measures and standards:

- improved emissions standards for light-duty vehicles (estimated reductions of 31.7 MMT CO₂e);
- the Low-Carbon Fuel Standard (15.0 MMT CO₂e);
- energy efficiency measures in buildings and appliances and the widespread development of combined heat and power systems (26.3 MMT CO₂e); and
- a renewable portfolio standard for electricity production (21.3 MMT CO₂e).

The CARB updated the Scoping Plan in 2013 (*First Update to the Scoping Plan*) and again in 2017 (the *Final Scoping Plan*). The 2013 Update built upon the initial Scoping Plan with new strategies and recommendations, and also set the groundwork to reach the long-term goals set forth by the state. Successful implementation of existing programs (as identified in previous iterations of the Scoping Plan) has put California on track to meet the 2020 target. The 2017 Update expands the scope of the plan further by focusing on the strategy for achieving the state's 2030 GHG target of 40 percent emissions reductions below 1990 levels (to achieve the target codified into law by SB 32), and substantially advances toward the state's 2050 climate goal to reduce GHG emissions by 80 percent below 1990 levels.

The 2017 Update relies on the preexisting programs paired with an extended, more stringent Cap-and-Trade Program, to deliver climate, air quality, and other benefits. The 2017 Update identifies new technologically feasible and cost-effective strategies to ensure that California meets its GHG reduction targets in a way that promotes and rewards innovation, continues to foster economic growth, and delivers improvements to the environment and public health.

Senate Bill 32

Senate Bill 32, which passed into law in 2016, sets the target of reducing greenhouse gas emissions to 40 percent below the 1990 level by the year 2030. SB 32 extends the original set of greenhouse gas targets provided by the passage of AB 32 (the Global Warnings Solutions Act of 2006). This new

target sets an aggressive goalpost, helping the State along its pathway to achieve its longer-term goal of an 80 percent reduction in greenhouse gas emissions by the year 2050.

Senate Bill 743

SB 743, passed into law in 2013, changes the way that public agencies evaluate the transportation impacts of projects under CEQA. The proposed revisions to the State CEQA Guidelines would establish new criteria for determining the significance of a project's transportation impacts that will more appropriately balance the needs of congestion management with statewide goals related to infill development, promotion of public health through active transportation, and reduction of GHGs. The 2017 Update to the Scoping Plan identified that slower VMT growth from more efficient land use development patterns would promote achievement of the state's climate goals.

As detailed in SB 743, the Governor's Office of Planning and Research (OPR) was tasked with developing potential metrics to measure transportation impacts and replace the use of delay and level of service (LOS). More detail about SB 743 is provided in the setting section of Chapter 3.14, "Traffic and Circulation" of the Draft EIR.

In December 2018, OPR released its final changes to the CEQA Guidelines, including the addition of Section 15064.3 of the CEQA Guidelines that would implement SB 743. In support of these changes, OPR also published its Technical Advisory on Evaluating Transportation Impacts in CEQA, which recommends that the transportation impact of a project be based on whether it would generate a level of vehicle miles traveled (VMT) per capita for residential projects or per employee for employment projects that is 15 percent lower than existing development in the city, county, or region. OPR's technical advisory explains that this criterion is consistent with Section 21099 of the California Public Resources Code, which states that the criteria for determining significance must "promote the reduction in greenhouse gas emissions". It is also consistent with the statewide per capita VMT reduction target developed by Caltrans in its Strategic Management Plan, which calls for a 15 percent reduction in per capita VMT, compared to 2010 levels, by 2020. Additionally, the California Air Pollution Control Officers Association (CAPCOA) determined that a 15 percent reduction in VMT is typically achievable for projects. CARB's First Update to the Climate Change Scoping Plan also called for local governments to set communitywide GHG reduction targets of 15 percent below then-current levels by 2020. Although not required, a lead agency may elect to be governed by the provisions of Section 15064.3 immediately. However, the provisions of Section 15064.3 do not apply statewide until July 1, 2020.

Executive Order B-48-18: Zero-Emission Vehicles

In January 2018, EO B-48-18 was signed into law and requires all State entities to work with the private sector to have at least 5 million zero-emission vehicles (ZEVs) on the road by 2030, as well as install 200 hydrogen fueling stations and 250,000 electric vehicle charging stations by 2025. It specifies that 10,000 of the electric vehicle charging stations should be direct current fast chargers. This Executive Order also requires all State entities to continue to partner with local and regional governments to streamline the installation of ZEV infrastructure. The Governor's Office of Business and Economic Development is required to publish a Plug-in Charging Station Design Guidebook and

update the 2015 Hydrogen Station Permitting Guidebook to aid in these efforts. All State entities are required to participate in updating the 2016 Zero-Emissions Vehicle Action Plan (Governor's Interagency Working Group on Zero-Emission Vehicles 2016) to help expand private investment in ZEV infrastructure with a focus on serving low-income and disadvantaged communities. Additionally, all State entities are to support and recommend policies and actions to expand ZEV infrastructure at residential uses through the Low Carbon Fuel Standard Program, and recommend how to ensure affordability and accessibility for all drivers.

Assembly Bill 2076: California Strategy to Reduce Petroleum Dependence

In response to the requirements of Assembly Bill (AB) 2076 (Chapter 936, Statutes of 2000), the CEC and the CARB developed a strategy to reduce petroleum dependence in California. The strategy, *Reducing California's Petroleum Dependence*, was adopted by the CEC and the CARB in 2003. The strategy recommends that California reduce on-road gasoline and diesel fuel demand to 15 percent below 2003 demand levels by 2020 and maintain that level for the foreseeable future; the Governor and Legislature work to establish national fuel economy standards that double the fuel efficiency of new cars, light trucks, and sport utility vehicles (SUVs); and increase the use of non-petroleum fuels to 20 percent of on-road fuel consumption by 2020 and 30 percent by 2030.

Assembly Bill 2188: Solar Permitting Efficiency Act

Assembly Bill (AB) 2188, enacted in California in 2015, required local governments to adopt a solar ordinance by September 30, 2015 that creates a streamlined permitting process that conforms to the best practices for expeditious and efficient permitting of small residential rooftop solar systems. The act is designed to lower the cost of solar installations in California and further expand the accessibility of solar to more California homeowners. The bulk of the time and cost savings associated with a streamlined permitting process comes from the use of a standardized eligibility checklist and a simplified plan. This bill also shortens the number of days for those seeking Homeowner's Association (HOA) approval for a written denial of a proposed solar installation.

Governor's Low Carbon Fuel Standard (Executive Order #S-01-07)

Executive Order #S-01-07 establishes a statewide goal to reduce the carbon intensity of California's transportation fuels by at least 10 percent by 2020 through establishment of a Low Carbon Fuel Standard. The Low Carbon Fuel Standard is incorporated into the State Alternative Fuels Plan and is one of the proposed discrete early action GHG reduction measures identified by the CARB pursuant to AB 32.

Senate Bill 97

Senate Bill (SB) 97 (Chapter 185, 2007) required OPR to develop recommended amendments to the State CEQA Guidelines for addressing greenhouse gas emissions. OPR prepared its recommended amendments to the State CEQA Guidelines to provide guidance to public agencies regarding the analysis and mitigation of greenhouse gas emissions and the effects of greenhouse gas emissions in draft CEQA documents. The Amendments became effective on March 18, 2010.

Senate Bill 375

Senate Bill (SB) 375 (Stats. 2008, ch. 728) (SB 375) was built on AB 32 (California's 2006 climate change law). SB 375's core provision is a requirement for regional transportation agencies to develop a Sustainable Communities Strategy (SCS) in order to reduce GHG emissions from passenger vehicles. The SCS is one component of the existing Regional Transportation Plan (RTP).

The SCS outlines the region's plan for combining transportation resources, such as roads and mass transit, with a realistic land use pattern, in order to meet a state target for reducing GHG emissions. The strategy must take into account the region's housing needs, transportation demands, and protection of resource and farmlands.

Additionally, SB 375 modified the state's Housing Element Law to achieve consistency between the land use pattern outlined in the SCS and the Regional Housing Needs Assessment allocation. The legislation also substantially improved cities' and counties' accountability for carrying out their housing element plans.

Finally, SB 375 amended the California Environmental Quality Act (Pub. Resources Code, § 21000 et seq.) to ease the environmental review of developments that help reduce the growth of GHG emissions.

Executive Order B-30-15

On April 29, 2015, Governor Jerry Brown issued Executive Order (EO) B-30-15, which establishes a State GHG reduction target of 40 percent below 1990 levels by 2030. The new emission reduction target provides for a mid-term goal that would help the State to continue on course from reducing GHG emissions to 1990 levels by 2020 (per AB 32) to the ultimate goal of reducing emissions 80 percent under 1990 levels by 2050 (per EO S-03-05). This is in line with the scientifically established levels needed in the U.S. to limit global warming below 2 degrees Celsius – the warming threshold at which scientists say there will likely be major climate disruptions. EO B-30-15 also addresses the need for climate adaptation and directs State government to:

- Incorporate climate change impacts into the State's Five-Year Infrastructure Plan;
- Update the Safeguarding California Plan, the State climate adaptation strategy, to identify how climate change will affect California infrastructure and industry and what actions the State can take to reduce the risks posed by climate change;
- Factor climate change into State agencies' planning and investment decisions; and
- Implement measures under existing agency and departmental authority to reduce GHG emissions.

SB 100- Renewables Portfolio Standard Program

Under the policy, California's renewable energy and zero-carbon resources supply 100 percent of electric retail sales to end-use customers and 100 percent of electricity procured to serve state agencies by December 31, 2045. The policy requires the transition to a zero-carbon electric system does not cause or contribute to increases of greenhouse gas emissions elsewhere in the western electricity grid.

SB 100 requires the CEC, CPUC, and CARB to complete a joint agency report to the Legislature evaluating the 100 percent zero-carbon electricity policy, as described below. The report will be developed using a public process and qualitative and quantitative analyses to address the requirements and intent of the statute.

Advanced Clean Cars Program

In January 2012, the CARB approved the Advanced Clean Cars program which combines the control of GHG emissions and criteria air pollutants, as well as requirements for greater numbers of zero-emission vehicles, into a single package of standards for vehicle model years 2017 through 2025. The new rules strengthen the GHG standard for 2017 models and beyond. This will be achieved through existing technologies, the use of stronger and lighter materials, and more efficient drivetrains and engines. The program's zero-emission vehicle regulation requires battery, fuel cell, and/or plug-in hybrid electric vehicles to account for up to 15 percent of California's new vehicle sales by 2025. The program also includes a clean fuels outlet regulation designed to support the commercialization of zero-emission hydrogen fuel cell vehicles planned by vehicle manufacturers by 2015 by requiring increased numbers of hydrogen fueling stations throughout the state. The program will have significant energy demand implications as battery, fuel cell, and/or plug-in hybrid electric vehicle sales increase overtime, creating new demand for electricity services both in residential and commercial buildings (e.g. charging stations) as well as demand for new EV and hydrogen fuel cell charging stations. The number of stations will grow as vehicle manufacturers sell more fuel cell vehicles. According to the CARB, by 2025, when the rules will be fully implemented, the statewide fleet of new cars and light trucks will emit 34 percent fewer global warming gases and 75 percent fewer smog-forming emissions than the statewide fleet in 2016.

Executive Order N-79-20

The Order requires the California Air Resources Board (CARB) develop regulations that: (1) require all in-state sales of new passenger cars and trucks be zero-emission by 2035; (2) require all medium- and heavy-duty vehicles, "where feasible," be zero emission by 2045; and (3) work to make all off-road vehicles and equipment zero emissions by 2035.

California Building Energy Efficiency Standards

The California Energy Code (California Code of Regulations, Title 24, Part 6), which is incorporated into the Building Energy Efficiency Standards, was first established in 1978 in response to a legislative mandate to reduce California's energy consumption. Although these standards were not originally intended to reduce GHG emissions, increased energy efficiency results in decreased GHG emissions because energy efficient buildings require less electricity and thus less consumption of fossil fuels, which emit GHGs. The standards are updated periodically to allow consideration and possible incorporation of new energy efficiency technologies and methods. The current 2019 Building Energy Efficiency Standards, commonly referred to as the "Title 24" standards, include changes from the previous standards that were adopted, to do the following:

- Provide California with an adequate, reasonably priced, and environmentally sound supply of energy.

- Respond to Assembly Bill 32, the Global Warming Solutions Act of 2006, which mandates that California must reduce its GHG emissions to 1990 levels by 2020.
- Pursue California energy policy that energy efficiency is the resource of first choice for meeting California's energy needs.
- Act on the California Energy Commission's Integrated Energy Policy Report, which finds that standards are the most cost effective means to achieve energy efficiency, states an expectation that the Building Energy Efficiency Standards will continue to be upgraded over time to reduce electricity and peak demand, and recognizes the role of the Building Energy Efficiency Standards in reducing energy related to meeting California's water needs and in reducing GHG emissions.
- Meet the West Coast Governors' Global Warming Initiative commitment to include aggressive energy efficiency measures into updates of State building codes.
- Meet Executive Order S-20-04, the Green Building Initiative, to improve the energy efficiency of non-residential buildings through aggressive standards.

The most recent Title 24 standards are the 2019 Title 24 standards. The 2019 Building Energy Efficiency Standards improve upon the 2016 Energy Standards for new construction of, and additions and alterations to, residential and nonresidential buildings. Buildings permitted on or after January 1, 2020, must comply with the 2019 Standards. The California Energy Commission updates the standards every three years.

Single-family homes built with the 2019 standards will use about 7 percent less energy due to energy efficiency measures versus those built under the 2016 standards. Once rooftop solar electricity generation is factored in, homes built under the 2019 standards will use about 53 percent less energy than those under the 2016 standards. This will reduce greenhouse gas emissions by 700,000 metric tons over three years, equivalent to taking 115,000 fossil fuel cars off the road. Nonresidential buildings will use about 30 percent less energy due mainly to lighting upgrades.

LOCAL

Glenn County Air Pollution Control District

The Glenn County Air Pollution Control District (APCD) is the local agency with primary responsibility for compliance with both the federal and state standards and for ensuring that air quality conditions are maintained. They do this through a comprehensive program of planning, regulation, enforcement, technical innovation, and promotion of the understanding of air quality issues.

Activities of the Glenn County APCD include the preparation of plans for the attainment of ambient air quality standards, adoption and enforcement of rules and regulations concerning sources of air pollution, issuance of permits for stationary sources of air pollution, inspection of stationary sources of air pollution and response to citizen complaints, monitoring of ambient air quality and meteorological conditions, and implementation of programs and regulations required by the FCAA and CCAA.

Glenn County Regional Transportation Plan

The current Regional Transportation Plan (RTP) produced by the Glenn County Local Transportation Commission was adopted in 2020. The RTP serves as the backbone of transportation fiscal planning by providing capital program planning for all regional, state, and federally funded projects in the County. The RTP states that its focus is “developing a coordinated and balanced multi-modal regional transportation system... The balance is achieved by considering investment and improvements for moving people and goods across all modes including roads, transit, bicycle, pedestrian, trucking, railroad, and aviation.” The RTP also demonstrates compliance with air quality conformity requirements under the federal Clean Air Act.

The RTP incorporates new legislation and the associated goals, particularly related to Assembly Bill 32 and Senate Bill 375, which encourage regional greenhouse gas (GHG) emission reductions from passenger vehicles and light duty trucks through changes in transportation and land use promotes measures to improve air quality and health goals in alignment with state and federal goals.

Northern Sacramento Valley Air Quality Attainment Plan

As specified in the California Clean Air Act of 1988 (CCAA), Chapters 1568-1588 it is the responsibility of each air pollution control district and air quality management district within the State to attain and maintain California’s ambient air quality standards. The CCAA requires that an Attainment Plan (Plan) be developed by all non-attainment districts for ozone (O₃), carbon monoxide (CO), sulfur oxides (SO_x), and nitrogen oxides (NO_x) that are either receptors or contributors of transported air pollutants. The purpose of the Plan is to comply with the requirements of the CCAA as implemented through the California Health and Safety Code. Districts are required to update the Plan every three years.

The Northern Sacramento Valley (NSV) is classified as a moderate nonattainment area for State 1-hour ozone standard. The NSV comprises the northern portion of the Sacramento Valley Air Basin and includes the counties of Butte, Colusa, Glenn, Tehama, Shasta and the northern portions of Yuba & Sutter. The NSV is generally rural in nature, with a low population density and a predominately agricultural economy. Its industrial base is dominated by agricultural/construction support operations, although small scale manufacturing is also found throughout the region.

Health and Safety Code section 41503(b) requires that control measures for the same emission sources be uniform throughout the air basin. To meet this requirement the NSV has coordinated the development of the Plan and established specific rule adoption protocols through the Technical Advisory Committee (TAC) of the Sacramento Basinwide Control Council.

The Plan was initially submitted to CARB on September 16, 1991. CARB held a public hearing on the Plan on July 9, 1992 and found the Plan to conform to several elements of the CCAA, but also identified several deficiencies. CARB gave conditional approval of the Plan to allow time for completing plan modifications after consultation with the districts. The Plan includes the all feasible control measures applicable to the NSV, emission accounting and ranking of measures by cost-effectiveness, and provisions to develop area and indirect source control measures. The Plan did not

fully satisfy the CCAA requirement for permitting rules and several districts did not make the cost-effectiveness findings.

After evaluating the progress achieved with the 1991 Plan, the NSV shifted the primary emphasis from the adoption of stationary source control measures to motor vehicle emission reductions. Because mobile sources are the single largest contributor to ozone pollution, the 1994 Plan concentrated on reducing these emissions through the implementation of Indirect Source Review (ISR) programs and Transportation Control Measures (TCMs). Several stationary source measures previously considered in the 1991 Plan were deemed not applicable or not offering cost-effective emission control and were removed from the list.

The 1997 triennial update to the Plan addressed the progress made implementing the 1994 Plan and proposed modifications to the strategies necessary to attain the State ozone standard at the earliest practicable date. Like the 1994 Plan, the 1997 Plan focused on the adoption and implementation of control measures for stationary sources, mobile sources, area wide sources, indirect sources and addressed public education programs. The Plan also addressed the transport of pollutants from the upwind metropolitan areas to the NSV. With the State Implementation Plan (SIP) as the state's established control strategy for the future, the CARB found that the NSV districts would not be required to prepare a comprehensive plan update for 1997. Instead, districts were directed to focus on implementing their existing control strategies and SIP commitments.

As with the 1997 Plan, the 2000 and 2003 Plan were focused on implementing existing control strategies and SIP commitments. In the 2000, 2003 and 2006 Plan updates, districts endeavored to incorporate three general principles to guide them in their planning process: (1) Air quality modeling to identify the reductions needed and to design effective emission reduction strategies; (2) Comprehensive emission reduction programs that take advantage of current emission control technologies; and (3) Address the impacts of pollutant transport in the attainment demonstration.

3.7.3 IMPACTS AND MITIGATION MEASURES

ENERGY AND GREENHOUSE GASES THRESHOLDS OF SIGNIFICANCE

Per Appendix G of the CEQA Guidelines, climate change-related impacts are considered significant if implementation of the proposed project would do any of the following:

- Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment; or
- Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases.
- Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation; or
- Conflict with or obstruct a state or local plan for renewable energy or energy efficiency.

IMPACTS AND MITIGATION MEASURES

Impact 3.7-1: General Plan implementation has the potential to generate GHG emissions that could 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 (Significant and Unavoidable)

Emissions of GHGs contributing to global climate change are attributable in large part to human activities associated with the industrial/manufacturing, utility, transportation, residential, and agricultural sectors. Therefore, the cumulative global emissions of GHGs contributing to global climate change can be attributed to every nation, region, county and city, and virtually every individual on Earth. A project's GHG emissions are at a micro-scale relative to global emissions, but could result in a cumulatively considerable incremental contribution to a significant cumulative macro-scale impact. Implementation of the proposed project would contribute to increases of GHG emissions that are associated with global climate change. Estimated GHG emissions attributable to future development would be primarily associated with increases of CO₂ and other GHG pollutants, such as methane (CH₄) and nitrous oxide (N₂O), from mobile sources and utility usage.

Development that occurs because of implementation of the proposed General Plan would include activities that emit greenhouse gas emissions over the short and long term. A brief summary of short- and long-term emissions and the analysis for each are included below.

The major projected impacts of climate change in Glenn County are expected to be more days of extreme heat over longer periods, as well as potential for localized flooding and drought conditions. The major sources of GHGs in Glenn County are on-road transportation, non-residential energy, and residential energy use. Short-term and long-term emissions typically associated with construction and operations of future development projects.

SHORT-TERM EMISSIONS

Short-term greenhouse gas emissions would occur because of construction equipment used for the following: demolition, grading, paving, and building construction activities associated with future development and infrastructure projects that will be undertaken in the county over the next 20 years. GHG emissions would also result from worker and vendor trips to and from project sites and from demolition and hauling trips. Construction activities are short-term and cease to emit greenhouse gases upon completion, unlike operational emissions that are continuous year after year until operation of the use ceases. There is no threshold of significance for construction-related GHG emissions for plan-level impacts (including general plans).

Adoption of the proposed General Plan does not directly approve or otherwise entitle any new development projects or infrastructure improvement projects in the Planning Area. As such, the construction-related GHG emissions of future projects cannot be known or quantified at this time, as it would be highly speculative. Typically, construction-related GHG emissions contribute unsubstantially (less than one percent) to a project's annual greenhouse gas emissions inventory

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and mitigation for construction-related emissions is not effective in reducing a project's overall contribution to climate change, given how small of a piece of the total emissions construction emissions are. Short-term climate change impacts due to future construction-related activities would be subject to State requirements for GHG emissions and would be assessed on project-by-project basis, as required by CEQA.

LONG-TERM EMISSIONS

Future development projects will result in continuous GHG emissions from mobile, area, and operational sources. Mobile sources, including vehicle trips to and from development projects, will result primarily in emissions of CO₂, with minor emissions of CH₄ and N₂O. The most significant GHG emission from natural gas usage will be methane. Electricity usage by future development and indirect usage of electricity for water and wastewater conveyance will result primarily in emissions of carbon dioxide. Disposal of solid waste will result in emissions of methane from the decomposition of waste at landfills and agricultural operations coupled with CO₂ emission from the handling and transport of materials and solid waste. These sources combine to define the long-term greenhouse gas inventory for typical development projects and uses.

According to the CARB's 2017 Climate Change Scoping Plan, the transportation sector remains the largest source of GHG emissions in the State, accounting for 37% of the inventory (CARB, 2017). A typical passenger vehicle emits approximately 4.6 metric tons of CO₂ per year (U.S. EPA, 2018). This number can vary based on a vehicle's fuel, fuel economy, and the number of miles driven per year. As described in Chapter 3.14 (circulation) the land use modifications and policies proposed as part of the proposed General Plan would be expected to result in a slight reduction in vehicle miles traveled compared to existing conditions, as the updated policy document includes policies and actions, support alternative transportation and improvements. Furthermore, updates to the Land Use Map focuses development in areas around d existing development and would place the majority of new development near a community area, and thus would be expected to reduce per capita VMT.

The proposed General Plan would not conflict with any of the provisions of the CARB Scoping Plan or applicable regulations related to GHG reductions because the General Plan includes a comprehensive approach to expanding transit access, increasing mobility options, promoting a development pattern that accommodate a variety of housing types and are proximate to shopping, services, and jobs. All of these policy approaches serve to support regional and statewide efforts to reduce GHG emissions, through energy efficiency, green building, land use development, and the other policies and actions listed below.

However, even with implementation of the goals, policies, and actions contained in the proposed General Plan, there is no guarantee that the General Plan alone would be sufficient to limit GHGs to the extent required by AB 32 and SB 375, and other federal and state regulations. Therefore, out of an abundance of caution, General Plan implementation is considered to have the potential to generate GHG emissions that could 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. This impact is considered **significant and unavoidable**.

GENERAL PLAN MINIMIZATION MEASURES

CONSERVATION AND OPEN SPACE POLICIES

COS 4-1 *Require all development projects to comply with the mandatory energy efficiency requirements of the California Green Building Standards Code (CALGreen) and Building and Energy Efficiency Standards.*

COS 4-2 *As feasible, promote County operation energy efficiency and install as feasible, energy-efficient lighting, appliances, and alternative-energy infrastructure in County facilities during routine maintenance and as upgrades are needed and may provide for cost savings opportunities.*

COS 4-3 *As fleet vehicles are replaced, consider the use of alternative energy and fuel-efficient vehicles and equipment that meet or surpass State emissions requirements, to the extent feasible.*

COS 4-3 *Promote incentives from local, State, and Federal agencies for improving energy efficiency and expanding renewable energy installations.*

COS 4-4 *Support and encourage the implementation of innovative and green building best management practices including, but not limited to, sustainable site planning, solar opportunities, LEED certification, and exceeding the most current “green” development standards in the California Code of Regulations (CCR), Title 24, as feasible.*

CONSERVATION AND OPEN SPACE ACTIONS

Action COS-4a *Continue to review development projects to ensure that all new public and private development complies with the California Code of Regulations (CCR), Title 24 and CALGreen standards as well as the energy efficiency standards established by the General Plan and County Code.*

Action COS-4b *Provide a conservation page (or similar page) on the County’s website that provides links to resource agencies and provides information regarding local and regional conservation and energy upgrade and efficiency programs.*

AGRICULTURE ELEMENT POLICIES

AG 2-5: *Promote best management practices in agricultural operations to reduce emissions, conserve energy and water, promote soil health, and utilize alternative energy sources.*

AG 5-10: *Promote best management practices in agricultural operations (including animal operations) to reduce emissions, conserve energy and water, and utilize alternative energy sources.*

CIRCULATION ELEMENT POLICIES

CIR 2-1: *Implement best practices to improve the pedestrian and bicycle environment, including but not limited to separated bike and pedestrian pathways, enhanced safety features, improved signage, and landscaping and lighting features to improve safety and comfort, where feasible and appropriate.*

CIR 2-2: Coordinate pedestrian and bicycle facility improvements and pavement improvement projects (e.g., repaving and restriping), to the greatest extent feasible and while considering potential secondary effects.

CIR 2-3: Ensure that residents have convenient transit service to employment centers, County service centers, other government centers, and regional destinations (i.e., Sacramento International Airport), as funding allows.

CIR 4-1: Support land use with increased densities and intensity of trip making near incorporated cities and other small towns in the County, consistent with the Land Use Element, to reduce vehicle miles traveled and promote the use of walking, biking, and transit.

CIR 4-2: Encourage employers to provide programs for carpooling/transit/biking/walking subsidies, bicycle facilities, ridesharing, telecommuting, and working at home.

CIR 4-3: Monitor the deployment of new transportation technologies and services and develop policies that implement best practices to ensure these technologies and services benefit the public and the multimodal transportation system.

CIR 4-4: Support the creation of electric vehicle charging stations at commercial, government, and other employment and community destinations.

CIR 4-5: Support community education on electric farm vehicle technology and state and federal incentives for purchasing electric farm vehicles.

CIRCULATION ELEMENT ACTIONS

Action CIR-2a: Implement and build on recommendations for pedestrian and bicycle improvements in Hamilton City included in the Glenn County Active Transportation Plan (2019).

Action CIR-2b: Work collaboratively with State and regional agencies, such as Caltrans and the Cities of Willows and Orland, to implement a regional bikeway system that connects the cities, larger unincorporated communities, recreation destinations, and scenic areas in Glenn County.

Action CIR-2c: Pursue funding for construction and maintenance of bikeways and sidewalks, including off-road bikeways, where feasible.

Action CIR-2d: Add planned bicycle and pedestrian facilities in conjunction with road rehabilitation, reconstruction, or re-striping projects whenever feasible.

Action CIR-2e: Partner with Glenn Ride and other regional transit providers to conduct regular service reviews to advance convenient transit service to employment centers, County service centers, other government centers, and regional destinations (i.e., Sacramento International Airport), as funding allows. Also continue to support regional transit initiatives that serve Glenn County, which are already underway.

Action CIR-2f: Enhance transit stops through high quality, well maintained shelters and provide transit timetables.

Action CIR-2g: Consider alternatives to conventional bus systems, such as smaller shuttle buses (micro-transit), on demand transit services, or transportation networking company services that connect residential communities to regional activity centers with greater cost efficiency.

Action CIR-4a: Adopt VMT thresholds and screening criteria for environmental impact analysis. Review and update those guidelines on a regular basis using updated data.

Action CIR-4b: Explore the feasibility of a VMT impact fee program to fund transportation demand management strategies that are proven to reduce VMT.

Action CIR-4c: Consider requiring new development to incorporate electric vehicle charging in accordance with the California Green Building Standards Code and/or commit to using electric vehicles for a certain percentage of its vehicle fleet. Encourage installation of electric vehicle charging stations at existing development.

Action CIR-4d: Provide assistance to local farmers, through the form of educational materials and informational resources, to various programs that provide funding and technical assistance aimed at replacing diesel and gasoline powered farm equipment with electrical and other renewable energy source farm equipment.

Impact 3.7-2: General Plan implementation has the potential to result in a significant impact due to wasteful, inefficient, or unnecessary consumption of energy resources, or conflict with or obstruct a state or local plan for renewable energy or energy efficiency (Less than Significant)

The State CEQA Guidelines require consideration of the potentially significant energy implications of a project. CEQA requires mitigation measures to reduce “wasteful, inefficient and unnecessary” energy usage (Public Resources Code Section 21100, subdivision [b][3]). According to Appendix F of the CEQA Guidelines, the means to achieve the goal of conserving energy include decreasing overall energy consumption, decreasing reliance on natural gas and oil, and increasing reliance on renewable energy sources. In particular, a project would be considered “wasteful, inefficient, and unnecessary” if it were to violate state and federal energy standards and/or result in significant adverse impacts related to project energy requirements, energy inefficiencies, energy intensiveness of materials, cause significant impacts on local and regional energy supplies or generate requirements for additional capacity, fail to comply with existing energy standards, otherwise result in significant adverse impacts on energy resources, or conflict or create an inconsistency with applicable plan, policy, or regulation.

The proposed project is the updated General Plan, with a horizon year of 2040. Buildout of the General Plan includes residential, commercial, office, industrial, mixed-use, open space, agriculture, and other land uses (see Chapter 2.0: Project Description for further detail). The amount of energy used in the Planning Area at buildout would directly correlate to the type and size of development, the energy consumption associated with unit appliances, outdoor lighting, and energy use associated with other buildings and activities. Other major sources of Planning Area energy consumption include fuel used by vehicle trips generated during construction and operational

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activities, and fuel used by off-road and on-road construction vehicles during construction. The following discussion provides a breakdown of the energy uses in the Planning Area upon buildout of the proposed project.

ELECTRICITY AND NATURAL GAS

At buildout, the electricity and natural gas consumption would be used primarily to power buildings (all types of buildings, including residential, commercial, office, industrial, public, agricultural etc.). Electricity would primarily come from the electricity utility provider (PG&E), though on-site solar generation would generate a substantial source of energy for the community at General Plan buildout.

FUEL CONSUMPTION - ON-ROAD VEHICLES (OPERATION)

Buildout of the General Plan would generate vehicle trips during its operational phase. Fuel consumption is anticipated to represent the largest sector of GHG emissions at General Plan buildout. Energy for on-road vehicles would derive from gasoline, and diesel.

FUEL CONSUMPTION - ON-ROAD VEHICLES (CONSTRUCTION)

The proposed project would also generate on-road vehicle trips during construction activities (from construction workers, vendors, and haulers). The vast majority of on-road mobile vehicle fuel used during the construction activities during buildout of the General Plan would occur during building construction.

OFF-ROAD VEHICLES (CONSTRUCTION/OPERATION)

Off-road construction vehicles would use diesel fuel during construction activities. A non-exhaustive list of off-road constructive vehicles expected to be used during construction activities includes: cranes, forklifts, generator sets, tractors, excavators, and dozers. Additionally, as Glenn County is located in an area of agricultural importance the use of fuels for farming operations will also be present.

CONCLUSION

Buildout of the General Plan would use energy resources for the operation of buildings (electricity and natural gas), for on-road vehicle trips (e.g. gasoline and diesel fuel), and from off-road construction activities (e.g. diesel fuel) associated with buildout of the General Plan. Each of these activities would require the use of energy resources. Developers of individual projects within the Planning Area would be responsible for conserving energy, to the extent feasible, and would rely heavily on reducing per capita energy consumption to achieve this goal, including through Statewide and local measures.

Buildout of the General Plan would be in compliance with all applicable federal, state, and local regulations regulating energy usage. For example, PG&E is responsible for the mix of energy resources used to provide electricity for its customers, and it is in the process of implementing the

Statewide Renewable Portfolio Standard (RPS) to increase the proportion of renewable energy (e.g. solar and wind) within its energy portfolio.

PG&E is expected to achieve at least 60% renewables by 2030, and 100 percent zero-carbon electricity by 2045 (in compliance with SB 100). Additionally, energy-saving regulations, including the latest State Title 24 building energy efficiency standards (“part 6”), would be applicable to the proposed project. Other Statewide measures, including those intended to improve the energy efficiency of the statewide passenger and heavy-duty truck vehicle fleet (e.g. the Pavley Bill and the Low Carbon Fuel Standard), would improve vehicle fuel economies, thereby conserving gasoline and diesel fuel. These energy savings would continue to accrue over time. Furthermore, additional project-specific sustainability features individual development projects could further energy consumption of individual projects. The proposed project would also be in compliance with the planning documents described previously within this section.

As a result, the proposed project would not result in any significant adverse impacts related to project energy requirements, energy use inefficiencies, and/or the energy intensiveness of materials by amount and fuel type for during General Plan buildout, including during construction, operations, maintenance, and/or removal. The County would comply with all existing energy standards, and would not result in significant adverse impacts on energy resources. For the reasons stated above, buildout of the General Plan would not be expected cause an inefficient, wasteful, or unnecessary use of energy resources nor conflict with or obstruct a state or local plan for renewable energy or energy efficiency. This is a **less than significant** impact.

GENERAL PLAN MINIMIZATION MEASURES

See policies and actions listed under Impact 3.7-1.

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Hazards include man-made or natural materials or conditions that may pose a threat to human health, life, property, or the environment. Hazardous materials and waste present health hazards for humans and the environment. These health hazards can result during the manufacture, transportation, use, or disposal of such materials if not handled properly. In Glenn County, hazards to humans can also occur from natural or human induced wildfire and air traffic accidents.

This section provides a background discussion of the hazardous materials and waste, fire hazards, and hazards from air traffic found in Glenn County. This section is organized with an existing setting, regulatory setting, and impact analysis. Additional analysis related to wildfire hazards is contained in Section 3.16, Wildfire, of this EIR.

A comment letter from the California Department of Toxic Substances Control (DTSC) was received during the NOP comment period regarding this environmental topic. DTSC noted their role in the regulatory process, and identified resources that could be used during preparation of the EIR. The comment letter is included in Appendix A.

3.8.1 ENVIRONMENTAL SETTING

HAZARDOUS MATERIALS AND WASTE

Hazardous Materials

A hazardous material is a substance or combination of substances which, because of its quantity, concentration, or physical, chemical, or infectious characteristics, may either (1) cause or significantly contribute to an increase in mortality or an increase in serious, irreversible, or incapacitating irreversible illness; or (2) pose a substantial present or potential hazard to human health and safety, or the environment when improperly treated, stored, transported, or disposed of. Hazardous materials are mainly present because of industries involving chemical byproducts from manufacturing, petrochemicals, and hazardous building materials.

Hazardous Waste

Hazardous waste is the subset of hazardous materials that has been abandoned, discarded, or recycled and is not properly contained, including soil or groundwater that is contaminated with concentrations of chemicals, infectious agents, or toxic elements sufficiently high to increase human mortality or to destroy the ecological environment. If a hazardous material is spilled and cannot be effectively picked up and used as a product, it is considered to be hazardous waste. If a hazardous material site is unused, and it is obvious there is no realistic intent to use the material, it is also considered to be a hazardous waste. Examples of hazardous materials include flammable and combustible materials, corrosives, explosives, oxidizers, poisons, materials that react violently with water, radioactive materials, and chemicals.

Transportation of Hazardous Materials

The transportation of hazardous materials within California is subject to various Federal, State, and local regulations. It is illegal to transport explosives or inhalation hazards on any public highway not

3.8 HAZARDS AND HAZARDOUS MATERIALS

designated for that purpose, unless the use of the highway is required to permit delivery, or the loading of such materials (California Vehicle Code §§ 31602(b), 32104(a)). The California Highway Patrol (CHP) designates through routes to be used for the transportation of hazardous materials. Transportation of hazardous materials is restricted to these routes except in cases where additional travel is required from that route to deliver or receive hazardous materials to and from users.

HAZARDOUS SITES

Envirostor Data Management System

The California Department of Toxic Substances Control (DTSC) maintains the *Envirostor Data Management System*, which provides information on hazardous waste facilities (both permitted and corrective action) as well as any available site cleanup information. This site cleanup information includes: Federal Superfund sites (NPL), State Response sites, Voluntary Cleanup sites, School Investigation sites, Corrective Action sites, Tiered Permit sites, Historical sites, Investigation sites, Military Evaluation sites, and Evaluation sites.

Table 3.8-1 lists the location of Envirostor database sites within Glenn County.

TABLE 3.8-1: GLENN COUNTY SITE CLEANUP AND HAZARDOUS FACILITIES LIST (ENVIROSTOR)

NAME (ENVIROSTAR ID)	STATUS	LOCATION
<i>CORRECTIVE ACTION SITES</i>		
Willows Glenn County Airport (80001811)	No Further Action	Hwy 162 & I-5, Willows
<i>EVALUATION SITES</i>		
Arly's Auto Dismantling (11500001)	Refer: Other Agency	County Road 99, 1/4 Mile South of S St, Orland
Burrows Oil Company (11510001)	Refer: Other Agency	245 Garden, Willows
Eversole Auto Wrecking (11500002)	Refer: Other Agency	County Road 99, Orland
Hendrickson Air Service (11070011)	Refer: RWQCB	Highway 162, Willows
Louisiana-Pacific Corp - Elk Creek (11240001)	Refer: RWQCB	County Road 306, 100 Yds SW Stoney Gorge, Elk Creek
North State Ag Service (11070015)	Refer: RWQCB	234 East Tehema, Orland
Orland Airport (11070016)	Refer: RWQCB	County Road P, Orland
Richfield Oil Corp (11510003)	Refer: Other Agency	545 North Colusa, Willows
Shell Oil (11510004)	Refer: RWQCB	630 Eureka, Willows

<i>NAME (ENVIROSTAR ID)</i>	<i>STATUS</i>	<i>LOCATION</i>
Silviera Auto Wrecking (11500003)	Refer: Other Agency	County Road 99, Orland
Stonycreek Junk and Auto Wrecker (11500004)	Refer: Other Agency	Highway 99 West, Orland
Vereschagin Oil Company (11510007)	Refer: RWQCB	517 6th Street, Orland
Woody And Webb's Auto Wrecking (11500008)	Refer: Other Agency	County Road 12, Orland
<i>HAZ WASTE</i>		
Glenn County Department of Agriculture (CAD000625962)	Protective Filer	720 North Colusa Street, Willows
<i>HAZ WASTE - RCRA</i>		
Willows Glenn County Airport (CAT000625525)	Closed	Hwy 162 & I-5, Willows
<i>HISTORICAL SITES</i>		
California Farm Supply (11070006)	No Further Action	Highway 32, Hamilton City
Glenn County Airport - Willows (11070001)	Refer: RCRA	West Side Of I-5 Freeway at Willows, Willows
<i>INSPECTION SITES</i>		
WTP (CAL000267271)	No Action	3820 Hwy 99, Orland
<i>MILITARY EVALUATION SITES</i>		
Kirkwood Auxiliary Field #2 (J09ca0840) (80000576)	No Further Action	6th Avenue, Orland
Orland Auxiliary Field No. 1 (J09ca0889) (80000595)	No Further Action	Orland
Willows Auxiliary Field (J09ca1002) (80000778)	No Further Action	Willows
<i>SCHOOL INVESTIGATION</i>		
Capay Joint Union Elementary School (60002396)	No Action Required	7504 Cutting Avenue, Orland
Hamilton Union High School Expansion (60002814)	No Further Action	North Of 620 Canal Street and East of Sr 45/Canal Street, Hamilton City
Lake Elementary School Expansion (60001857)	No Further Action	4672 County Road N, Orland

3.8 HAZARDS AND HAZARDOUS MATERIALS

<i>NAME (ENVIROSTAR ID)</i>	<i>STATUS</i>	<i>LOCATION</i>
Orland Community School (11000001)	No Action Required	State Route 32/Walker Street/County Road M.5, Orland
Willows Community School (11000002)	No Action Required	Birch Street/Villa Avenue, Willows
<i>STATE RESPONSE</i>		
Orland Cleaners (11720001)	Certified / Operation & Maintenance	726 Fifth Street, Orland
<i>VOLUNTARY CLEANUP</i>		
PG&E, Willows 11490002	Certified / Operation & Maintenance - Land Use Restrictions	310 E. Wood Street, Willows

SOURCE: CALIFORNIA DEPARTMENT OF TOXIC SUBSTANCES CONTROL, ENVIROSTAR DATABASE, 2022.

Cortese List

The Hazardous Waste and Substances Sites (Cortese) List is a planning document used by the State, local agencies, and developers to comply with the California Environmental Quality Act requirements in providing information about the location of hazardous materials release sites. Government Code Section 65962.5 requires the California Environmental Protection Agency to develop at least annually an updated Cortese List. California Department of Toxic Substances Control (DTSC) is responsible for a portion of the information contained in the Cortese List. Other State and local government agencies are required to provide additional hazardous material release information for the Cortese List.

There is one site within Glenn County that is listed on the Cortese List and the site is located within the City of Orland.

Site History: The Orland dry cleaner site is a single building, occupying approximately 2,000 square feet. Dry-cleaning operations were conducted on Site from the 1940s to 1988. From 1988 through 1992, the dry-cleaning operations were contracted off site. In May 1992, dry-cleaning operations resumed on site, using a fully self-contained dry-cleaning machine. Prior to 1988, spent solvent, PCE was discharged into a sump located within the building. A soil sample collected in August 1994 from the bottom of the dry well inside the center of the facility detected PCE at concentration of 62,600 milligrams per kilogram (mg/kg).

Orland is an agriculturally based rural community consisting of approximately 6,000 residents. Many rural residences rely on shallow residential water wells for domestic use. These wells are usually screened to depths ranging from approximately 60 to 120 feet below ground surface. Most residents rely on a public water supply system consisting of a blended well system from eight (8) public water wells screened at depths ranging from 65 to 360 feet below ground surface.

Orland Cleaners is the only hazardous materials release site located in the Planning Area listed on the Cortese List. Orland Cleaners is a State Response site with a Certified / Operation & Maintenance status.

The PCE plume extends from the Orland Dry Cleaners facility approximately 1.8 miles to the southeast. The plume moves deeper in the downgradient direction, reaching a maximum depth of approximately 120 feet below ground surface (bgs). The plume is approximately 2,100 feet wide. Groundwater contamination consists of perchloroethylene (PCE), also referred to as tetrachloroethene, from activities related to the Orland Dry Cleaners. The highest reported concentration of PCE from groundwater monitoring wells is 47 micrograms per liter at the source, at approximately 25 feet bgs.

A Removal Action Workplan (RAW) was approved in March 2008 to remedy groundwater impacts. Implementation of the RAW was completed in January 31, 2011. RAW activities include additional groundwater investigation, installation of six (6) monitoring wells, injection of 5,000 gallons of diluted emulsified soybean oil substrate into 20 borings within the depth interval of 30 and 60 feet below groundwater surface and long-term monitoring of groundwater. In June 2013, DTSC certified the completion of the removal action and the remaining activities at the Site are long-term monitoring of the PCE plume. DTSC is currently conducting annual long-term groundwater monitoring (information last updated on 10/24/2018).

GeoTracker

GeoTracker is the California Water Resources Control Board's data management system for managing sites that impact groundwater, especially those that require groundwater cleanup (Underground Storage Tanks, Department of Defense, Site Cleanup Program) as well as permitted facilities such as operating USTs and land disposal sites.

Leaking Underground Storage Tanks (LUST)

There are 51 locations with a Glenn County address that are listed in the GeoTracker database for Leaking Underground Storage Tanks (LUST). Of the sites identified, 48 of the locations have undergone LUST cleanup and the State has closed the case. One site is eligible for closure, one site is open for site assessment, and one site is an open verification monitoring case. Table 3.8-2 lists the name and location for LUSTs in Glenn County.

TABLE 3.8-2: GLENN COUNTY GEOTRACKER DATABASE LUST SITES

<i>SITE NAME</i>	<i>STATUS</i>	<i>ADDRESS</i>
Afton General Store	Completed - Case Closed	Co Rd 67, Afton
Agri Sales, Inc	Completed - Case Closed	3058 Hwy 45, Ordbend
Arco #2094	Open - Verification Monitoring	1399 Wood St W, Willows
Beacon #3609	Completed - Case Closed	1021 South St, Orland
Beacon #3680 (Former)	Completed - Case Closed	506 6th St, Orland
Benjamin's Service, Inc.	Completed - Case Closed	601 6th St, Hamilton City
Ca Water Service Co	Completed - Case Closed	420 Cedar St, Willows
Cal-Farm Supply	Completed - Case Closed	470 Hwy 32, Hamilton City
Caltrans Willows Maintenance STN	Completed - Case Closed	939 Humboldt N, Willows
CFN Cardlock	Completed - Case Closed	1005 South St, Orland
Chevron #9-0256	Completed - Case Closed	104 Tehama St N, Willows

3.8 HAZARDS AND HAZARDOUS MATERIALS

<i>SITE NAME</i>	<i>STATUS</i>	<i>ADDRESS</i>
Codora Orchards	Completed - Case Closed	Hwy 162 & Hwy 45, Butte City
D Bridges Oil/Lube	Completed - Case Closed	507 6th St, Orland
Double E Market	Completed - Case Closed	575 Sacramento St, Hamilton City
Drobny Brothers Farm	Completed - Case Closed	Co Rd 102 & Co Rd 203, Hamilton City
Fitzpatrick Chevrolet	Completed - Case Closed	201 Tehama St S, Willows
Former Gas Station/Jaco Oil Company Property	Open - Eligible for Closure	410 N. Tehama Street, Willows
Former SS	Completed - Case Closed	1401 Wood St W, Willows
Fred's Automotive	Completed - Case Closed	625 6th St, Orland
Gandy-Staley Oil Co. Inc.	Completed - Case Closed	630 Eureka St, Willows
Glenn Co Service Ctr - Orland	Completed - Case Closed	821 South St E, Orland
Glenn County Service Center	Completed - Case Closed	453 Co Rd 49 1/2, Willows
Glenn General Hospital	Completed - Case Closed	1133 Sycamore St W, Willows
I.G. Zumwalt Company	Completed - Case Closed	311 Butte St N, Willows
Jackpot Food Mart	Completed - Case Closed	585 Sierra St, Hamilton City
Jackpot Food Mart Ss	Completed - Case Closed	848 Newville Rd, Orland
Kampschmidt Trucking	Completed - Case Closed	895 North Tehama Street, Willows
Kaplan Almond Farm	Completed - Case Closed	1st St & Sacramento, Hamilton City
Kelleher Facility (Former)	Completed - Case Closed	710 South Tehama Street, Willows
Knudsen/Foremost	Completed - Case Closed	121 Cedar St E, Willows
Main Pumping Plant	Completed - Case Closed	Co Rd 203, Hamilton City
Mendocino Forest	Completed - Case Closed	420 Laurel St E, Willows
Meryl Stokes	Completed - Case Closed	200 Garden, Willows
Orland Corporation Yard	Completed - Case Closed	615 South St E, Orland
Orland Livestock Comm. Yard	Completed - Case Closed	Co Rd 99 W, Orland
Orland Shell	Completed - Case Closed	902 Newville Rd, Orland
PG&E Willows Maintenance STN.	Completed - Case Closed	631 Colusa St N, Willows
Private Residence	Completed - Case Closed	Private Residence, Princeton
R & M Truck Stop	Completed - Case Closed	6412 Co Rd 27, Orland
Rosalia Ranch	Completed - Case Closed	Co Rd F, Artois
Sehorn Property	Completed - Case Closed	315 Tehama St, Willows
Shell Ss	Completed - Case Closed	1300 Wood St W, Willows
Southern Pacific	Completed - Case Closed	524 Yolo St, Orland
Sportsman's Market Ss	Completed - Case Closed	6378 Co Rd 200, Orland
Super Shopper	Completed - Case Closed	1233 East St, Orland
Unocal #6033	Completed - Case Closed	1502 Wood St W, Willows
Vereschagin Co	Completed - Case Closed	517 6th St, Orland
Willows Cardlock	Completed - Case Closed	900 South Tehama Street, Willows
Willows Motor Supply	Open - Site Assessment	112 West Wood Street, Willows
Willows O&M Facility	Completed - Case Closed	Hwy 162, Willows

<i>SITE NAME</i>	<i>STATUS</i>	<i>ADDRESS</i>
Willows Plant	Completed - Case Closed	Co Rd 49, Willows

SOURCE: CALIFORNIA WATER RESOURCES CONTROL BOARD GEOTRACKER DATABASE, 2022.

Permitted Underground Storage Tank (UST)

There are 18 locations with a Glenn County address that have Underground Storage Tanks (UST) that are permitted through the California Water Resources Control Board. Table 3.8-3 lists the name and location of the 18 permitted underground storage tanks in Glenn County.

TABLE 3.8-3: GLENN COUNTY GEOTRACKER DATABASE UST SITES

<i>SITE NAME</i>	<i>LOCATION</i>
7 Lucky Food Mart	585 Sierra Ave, Hamilton City
Chevron Station #95266	1250 W Wood St, Willows
Diamond Gas & Mart #6	1300 W Wood St, Willows
Double EE Market	575 Sacramento Ave, Hamilton City
Hamilton Gas and Food	601 6th St, Hamilton City
Mehrokee LLC Arco Am/Pm	902 Newville Rd, Orland
Orland CFN	1005 South St, Orland
Orland Chevron	848 Newville Rd, Orland
Orland Liberty Gas & Food	506 6th Street, Orland
Orland Stop & Shop	10 Walker St, Orland
Pilot Travel Center #1019	4444 Commerce Ln, Orland
Russell M Morgan Inc. Db a Bud's Am/Pm	1399 W Wood St, Willows
Sportsman's Market and Gas	6378 County Road 200, Orland
Super Shopper	1233 East St, Orland
Tesoro (Speedway) #68179	1021 South St, Orland
Tesoro (Speedway) #68180	1185 Hoff Way, Orland
Westside Card Lock	512 South St, Orland
Willows Travel Plaza LLC	1481 County Road 99w, Willows

SOURCE: CALIFORNIA WATER RESOURCES CONTROL BOARD GEOTRACKER DATABASE, 2022.

Water Board Program Cleanup Sites

There are 21 locations with a Glenn County address that are listed in the GeoTracker database for Water Board Cleanup Sites. 12 of the locations have undergone cleanup and the State has closed the case. There are 9 locations in Glenn County with open cases. Table 3.8-4 lists the location of open and closed cases for Water Board Program Cleanup Sites in Glenn County.

TABLE 3.8-4: GLENN COUNTY WATER BOARD CLEANUP SITES

<i>NAME</i>	<i>LOCATION</i>
<i>COMPLETED - CASE CLOSED</i>	
Barber Cashew Supply Corp - Butte City	8032 County Road 61, Butte City
Glenn County Airport - Willows	I-5 & Hwy. 162, Willows
Great Western Growers	6500 County Road 60, Willows
Hendrickson Air Service	Willows Airport, I-5 & Hwy 162, Willows

3.8 HAZARDS AND HAZARDOUS MATERIALS

<i>NAME</i>	<i>LOCATION</i>
Holly Sugar - Hamilton City Plant	1st Street & Walsh Ave, Hamilton City
Mann & Sons Ag Aviation	Willows Airport, I-5 & Hwy 162, Willows
Michaud Aviation	Willows Airport, I-5 & Hwy 162, Willows
PG&E Sprague	Road 46, Glenn
PG&E West Beehive	County Road 61, Codora
Tosco Corp. - Willows Bulk Plant	County Road 53, Willows
Tosco Distribution Company	515 South Street, Orland
World Agri-Air, Inc.	Willows Airport, I-5 & Hwy 162, Willows
<i>OPEN - INACTIVE</i>	
John Taylor Fertilizers (8168 County Rd 33, Ord Bend)	8168 County Road 33, Ord Bend
Wilbur-Ellis Co, Formerly Glenn/John Taylor Fertilizer (County Rd 57 & Hwy 99, Willows)	County Road 57 & Hwy 99, Willows
Willows Flying Service	County Road 39 Between I-5 & Hwy 99, Willows
<i>OPEN - REMEDIATION</i>	
Louisiana Pacific Corp Elk Creek Sawmill	2531 County Rd 306, Elk Creek
<i>OPEN - SITE ASSESSMENT</i>	
Glenn County Airport - Orland	County Road P & 20, Orland
Hamilton City Ranch Farm Compound	7749 Road VV & Road 16, Hamilton City
<i>OPEN - VERIFICATION MONITORING</i>	
Barber Cashew Supply Corp - Willows	219 North Colusa St, Willows
Orland Dry Cleaners	726 5th Street, Orland
PG&E- Willows	310 East Wood Street, Willows

*LAND USE RESTRICTIONS

SOURCE: CALIFORNIA WATER RESOURCES CONTROL BOARD GEOTRACKER DATABASE, 2022.

Solid Waste Information System (SWIS)

The Solid Waste Information System (SWIS) is a database of solid waste facilities that is maintained by the California Integrated Waste Management Board (CIWMB). The SWIS data identifies active, inactive, planned, and closed sites. Glenn County has 22 solid waste facilities listed in the database. 15 facilities in Glenn County have been closed. 6 facilities in Glenn County are active. 1 facility in Glenn County is inactive. The site details for SWIS facilities are listed in Table 3.8-5 below.

TABLE 3.8-5: GLENN COUNTY CIWMB FACILITIES/SITES

<i>SWIS NUMBER</i>	<i>SITE NAME</i>	<i>ACTIVITY</i>	<i>STATUS</i>	<i>REGULATORY STATUS</i>
11-CR-0003	Orland City Dump	Solid Waste Disposal Site	Closed	Pre-regulations
11-CR-0010	Alder Hotel Site	Solid Waste Disposal Site	Closed	Pre-regulations
11-CR-0014	Sacramento National Wildlife Refuge DS	Solid Waste Disposal Site	Closed	Unpermitted
11-AA-0036	Glenn County Transfer Station	Large Volume Transfer/Processing Facility	Active	Permitted

<i>SWIS NUMBER</i>	<i>SITE NAME</i>	<i>ACTIVITY</i>	<i>STATUS</i>	<i>REGULATORY STATUS</i>
11-AA-0036	Glenn County Transfer Station	Inert Debris Type A Disposal Facility	Inactive	Permitted
11-AA-0037	California Olive Ranch Composting Trial	Research Composting Operation	Active	Notification
11-AA-0001	Glenn County Landfill Site	Solid Waste Landfill	Closed	Permitted
11-AA-0019	Valley Gold Compost	Agricultural Material Composting Operation	Active	Notification
11-CR-0002	Elk Creek Dump	Solid Waste Disposal Site	Closed	Pre-regulations
11-CR-0004	Orland-Hamilton City County Dump	Solid Waste Disposal Site	Closed	Pre-regulations
11-CR-0006	Willows County Dump	Solid Waste Disposal Site	Closed	Pre-regulations
11-CR-0008	Alder Station Site	Solid Waste Disposal Site	Closed	Pre-regulations
11-CR-0001	Butte City Dump	Solid Waste Disposal Site	Closed	Pre-regulations
11-AA-0003	LP Elk Creek Woodwaste Site	Wood Waste Disposal Site	Closed	Permitted
11-AA-0034	Compost Solutions, Inc.	Composting Facility (Mixed)	Active	Permitted
11-AA-0035	Caltrans Maintenance	Limited Volume Transfer Operation	Active	Notification
11-AA-0038	K & S Spreading	Agricultural Material Composting Operation	Active	Notification
11-AA-0004	Holly Sugar Lime Disposal Site	Solid Waste Disposal Site	Closed	Pre-regulations
11-CR-0009	Plaskett Site	Solid Waste Disposal Site	Closed	Pre-regulations
11-CR-0011	Ice Springs Site	Solid Waste Disposal Site	Closed	Pre-regulations
11-CR-0005	Willows City Dump	Solid Waste Disposal Site	Closed	Pre-regulations
11-CR-0007	Job Corps Site	Solid Waste Disposal Site	Closed	Pre-regulations
11-AA-0039	California Olive Ranch Compost Facility	Composting Facility (Other)	Planned	Proposed

Source: California Department of Resources Recycling and Recovery, 2022.

The vast majority of landfill disposal from Glenn County was historically sent to the Glenn County Landfill, owned and operated by the Glenn County Waste & Recycling Department.

Glenn County owned and operated the 195+ acre Glenn County Landfill Site, located on County Road 33, west of Artois. It was a Class III landfill (a facility at which protection is provided to water quality from municipal, industrial and agricultural wastes) with a maximum permitted capacity of 2,400,000 cubic yards. This site received agricultural waste, construction and demolition waste, dead animal, industrial, inert, mixed municipal waste, and tires.

The Glenn County Landfill Site was permitted to accept 1,400 tons of solid waste per week, not to exceed 200 tons per day. The average daily disposal was approximately 64 tons per day. The allotted disposal area was 83 acres, and it was designed to hold 2,400,000 cubic yards of inert or designated wastes. The maximum depth of the landfill is 192 feet below mean sea level and the permitted

height is no greater than 342 feet above mean sea level. The landfill was closed in 2020, and is no longer operational.

In 2016, Glenn County approved a new Glenn County Solid Waste Conversion Facility (GCSWCF), also known as a transfer station. The new transfer station became operational in 2020, and is located along Highway 32, approximately three miles west of Hamilton city and five miles east of Orland in an unincorporated area of Glenn County. The 8.5-acre project is bordered by Highway 32 to the north and Stony Creek to the south. The new facility consists of a new solid waste receiving and transfer facility, an anaerobic digester facility, an on-site electrical generation facility, a compressed natural gas production facility, and a fueling station. It serves as a municipal solid waste materials recovery facility, which will handle up to 500 tons per day.

HAZARDS FROM AIR TRAFFIC

The State Division of Aeronautics has compiled extensive data regarding aircraft accidents around airports in California. This data is much more detailed and specific than data currently available from the FAA and the National Transportation Safety Board (NTSB). According to the California Airport Land Use Planning Handbook (2011), prepared by the State Division of Aeronautics, 21 percent of general aviation accidents occur during takeoff and initial climb and 44.2 percent of general aviation accidents occur during approach and landing. The State Division of Aeronautics has plotted accidents during these phases at airports across the country and has determined certain theoretical areas of high accident probability.

Approach and Landing Accidents

As nearly half of all general aviation accidents occur in the approach and landing phases of flight, considerable work has been done to determine the approximate probability of such accidents. Nearly 77 percent of accidents during this phase of flight occur during touchdown onto the runway or during the roll-out. These accidents typically consist of hard or long landings, ground loops (where the aircraft spins out on the ground), departures from the runway surface, etc. These types of accidents are rarely fatal and often do not involve other aircraft or structures. Commonly these accidents occur due to loss of control on the part of the pilot and, to some extent, weather conditions. (California Division of Aeronautics, 2011).

The remaining 23 percent of accidents during the approach and landing phase of flight occur as the aircraft is maneuvered towards the runway for landing, in a portion of the airspace around the airport commonly called the traffic pattern. Common causes of approach accidents include the pilot's misjudging of the rate of descent, poor visibility, unexpected downdrafts, or tall objects beneath the final approach course. Improper use of rudder on an aircraft during the last turn toward the runway can sometimes result in a stall (a cross-control stall) and resultant spin, causing the aircraft to strike the ground directly below the aircraft. The types of events that lead to approach accidents tend to place the accident site fairly close to the extended runway centerline. The probability of accidents increases as the flight path nears the approach end of the runway. (California Division of Aeronautics, 2011).

According to aircraft accident plotting provided by the State Division of Aeronautics, most accidents that occur during the approach and landing phase of flight occur on the airport surface itself. The remainder of accidents that occur during this phase of flight are generally clustered along the extended centerline of the runway, where the aircraft is flying closest to the ground and with the lowest airspeed. (California Division of Aeronautics, 2002).

Takeoff and Departure Accidents

According to data collected by the State Division of Aeronautics, nearly 65 percent of all accidents during the takeoff and departure phase of flight occur during the initial climb phase, immediately after takeoff. This data is correlated by two physical constraints of general aviation aircraft:

- The takeoff and initial climb phase are times when the aircraft engine(s) is under maximum stress and is thus more susceptible to mechanical problems than at other phases of flight; and
- Average general aviation runways are not typically long enough to allow an aircraft that experiences a loss of power shortly after takeoff to land again and stop before the end of the runway.

While the majority of approach and landing accidents occur on or near to the centerline of the runway, accidents that occur during initial climb are more dispersed in their location as pilots are not attempting to get to any one specific point (such as a runway). Additionally, aircraft vary widely in payload, engine power, glide ratio, and several other factors that affect glide distance, handling characteristics after engine loss, and general response to engine failure. This further disperses the accident pattern. However, while the pattern is more dispersed than that seen for approach and landing accidents, the departure pattern is still generally localized in the direction of departure and within proximity of the centerline. This is partially due to the fact that pilots are trained to fly straight ahead and avoid turns when experiencing a loss of power or engine failure. Turning flight causes the aircraft to sink faster and flying straight allows for more time to attempt to fix the problem (California Division of Aeronautics, 2002).

Local Airport Facilities

Glenn County owns and operates two public use general aviation airports: the Willows-Glenn County Airport, located in the City of Willows, and the Haigh Field Airport, located in the City of Orland. Glenn County has no commercial air service to its airports.

Haigh Field Airport: Haigh Field Airport is located east of the City of Orland at the southwest corner of County Roads 200 and P. The Haigh Field Airport is located in a mixed development area with residential dwellings located to the northwest. Orchards are located to the east and south. The County operates a 65-acre industrial park that is located to the east of the airport.

Haigh Field Airport facilities include a single 60' x 4500' asphalt-concrete runway, parallel taxiway, 22 T hangars, and three conventional hangars. Two of the conventional hangars are leased for aerial agricultural chemical applicator uses, and the remaining hangar is used by the airport's Fixed Based Operator (FBO) as an aircraft repair facility. The airport also has 52 County-owned hangars available for rent. The airfield has medium intensity runway lights for night operations.

3.8 HAZARDS AND HAZARDOUS MATERIALS

The FAA 5010 Master Record reports 20,000 annual operations and 48 based aircraft.

Willows-Glenn County Airport: The Willows-Glenn County Airport is located west of the City of Willows. The airport has two asphalt runways. The primary runway 16-34 is 100' x 4125'. It has an Airport Reference Code of B-II and pavement strength of 90,000 pounds. The secondary runway 13-31 is 100' x 3788'. It has an Airport Reference Code of A-I and a pavement strength of 38,000 pounds. A full length parallel taxiway connects the primary runway to the airport's building area. Runway 16-34 is a non-precision instrument runway with four published approaches. The lowest minimum visibility approach is one mile.

While many flight operations out of the Willows-Glenn County Airport are agricultural-related (given the County's high production of rice and other agricultural products), other flight activities also include business, recreational, emergency, flight training, and law enforcement. The FAA 5010 Master Record reports 29,500 annual operations, 39 single engine aircraft, one jet, and two helicopters. At the center of the building area are 45 hangars of various sizes and conditions. Some are proposed for construction improvements in the Aviation CIP list of projects.

Chico Municipal Airport (CIC): The Chico Municipal Airport is located in Butte County approximately east of Glenn County. The Chico Municipal Airport is the largest and busiest airport in Butte County. The airport is owned and operated by the City of Chico and occupies some 2.3 square miles (1,475 acres) on the northern edge of the City of Chico. The airport currently handles over 50,000 aircraft takeoffs and landings annually and is home to more than 100 based aircraft. Additional information on this facility can be found in the Butte County Airport Land Use Commission's Butte County Airport Land Use Compatibility Plan.

Oroville Municipal Airport (OVE): The Oroville Municipal Airport is located in Butte County approximately 17 miles east of Glenn County. Oroville Municipal Airport is owned and operated by the City of Oroville and is situated within an extension of the Oroville city limits three miles southwest of the downtown center. The surrounding unincorporated area includes the community of Thermalito situated northeast of the airport. To the southwest and southeast, lie state-owned water project and wildlife refuge lands. Additional information on this facility can be found in the Butte County Airport Land Use Commission's Butte County Airport Land Use Compatibility Plan.

Colusa County Airport (O08): The Colusa County Airport is located in Colusa County approximately 17 miles south of Glenn County. The Colusa County Airport is a 78-acre general aviation facility owned and operated by the County of Colusa. Colusa County is situated in the geographic center of the Sacramento Valley. The City of Colusa is located in the eastern portion of the county, approximately 60 miles north of the City of Sacramento. The Airport is situated three miles south of the city center in an unincorporated area of Colusa County. Additional information on this facility can be found in the Colusa County Airport Land Use Commission's Colusa County Airport Land Use Compatibility Plan.

Corning Municipal Airport (O04): The Corning Municipal Airport is located in Tehama County approximately 13 miles north of Glenn County. The Corning Municipal Airport is owned and operated by the City of Corning. It is located at the northeastern corner of the City Limits at the

intersection of Marguerite Avenue and Neva Avenue. Corning Municipal Airport is served by a single asphalt runway that is 2,699 feet in length and 60 feet wide. Corning Municipal Airport does not have an airport traffic control tower. Additional information on this facility can be found in the Tehama County Airport Land Use Commission's Tehama County Airport Land Use Compatibility Plan.

Major Regional Airport Facilities

Sacramento International Airport (SMF): The Sacramento Airport (approximately 90 mile south of Glenn County) serves approximately 9 million passengers a day. SMF serves the Greater Sacramento Area, and it is run by the Sacramento County Airport System. The Airport covers approximately 6,000 acres (24 km²) and has two parallel runways, oriented north–south to align with prevailing winds. The airport has two terminals, terminal A and terminal B, with 32 gates.

National Transportation Safety Board Aviation Accident Database

The National Transportation Safety Board Aviation Accident Database identifies 11 aircraft accidents and 8 fatalities within Glenn County (National Transportation Safety Board, 2019). Table 3.8-6 below details each identified aircraft incidents listed by the database within Glenn County.

TABLE 3.8-6: NATIONAL TRANSPORTATION SAFETY BOARD AVIATION ACCIDENTS WITHIN GLENN COUNTY

EVENT DATE	LOCATION	MAKE/MODEL	EVENT SEVERITY
05/18/2010	Glenn, CA	AYRES S2R	Nonfatal
02/21/1999	Glenn, CA	Bell UH-1H	Fatal(1)
08/27/2009	Orland, CA	James B. Taplin RV-6	Fatal(2)
09/17/1994	Orland, CA	Alon A2	Fatal(1)
11/25/2017	Willows, CA	Doshier Wilbert A Gt-500	Nonfatal
12/27/2016	Willows, CA	Air Tractor Inc At 602	Nonfatal
04/28/2006	Willows, CA	Cirrus SR-20	Nonfatal
08/21/2002	Willows, CA	Cessna 195	Nonfatal
04/11/2002	Willows, CA	Beech G35	Fatal(2)
06/16/2000	Willows, CA	Maule M4-210C	Fatal(2)
05/21/1999	Willows, CA	Beech A36	Nonfatal

SOURCE: NATIONAL TRANSPORTATION SAFETY BOARD ACCIDENT DATABASE 2019

FIRE HAZARDS

Fuel Rank

Fuel rank is a ranking system developed by CalFire that incorporates four wildfire factors: fuel model, slope, ladder index, and crown index.

The U.S. Forest Service has developed a series of fuel models, which categorize fuels based on burn characteristics. These fuel models help predict fire behavior. In addition to fuel characteristics, slope is an important contributor to fire hazard levels. A surface ranking system has been developed by

CalFire, which incorporates the applicable fuel models and slope data. The model categorizes slope into six ranges: 0-10 percent, 11-25 percent, 26-40 percent, 41-55 percent, 56-75 percent and >75 percent. The combined fuel model and slope data are organized into three categories, referred to as surface rank. Thus, surface rank is a reflection of the quantity and burn characteristics of the fuels and the topography in a given area.

The ladder index reflects the distance from the ground to the lowest leafy vegetation for tree and plant species. The crown index reflects the quantity of leafy vegetation present within individual specimens of a given species.

The surface rank, ladder index, and crown index for a given area are combined in order to establish a fuel rank of medium, high, or very high. Fuel rank is used by CalFire to identify areas in the California Fire Plan where large, catastrophic fires are most likely.

Glenn County contains areas with “moderate” “High” “Very High” and “non-wildland fuel” ranks. Generally the more developed areas within the county near the I-5 corridor are considered non-wildland with the fuel rank increasing in the western foothill areas of the county. The areas warranting “moderate” to “Very High” fuel ranks possess combustible material in sufficient quantities combined with topographic characteristics that pose a wildfire risk.

Fire Threat

The fuel rank data are used by CalFire to delineate fire threat based on a system of ordinal ranking. Thus, the Fire Threat model creates discrete regions, which reflect fire probability and predicted fire behavior. The four classes of fire threat range from moderate to extreme.

Fire Hazard Severity Zones

The state has charged CalFire with the identification of Fire Hazard Severity Zones (FHSZ) within State Responsibility Areas. In addition, CalFire must recommend Very High Fire Hazard Severity Zones (VHFHSZ) identified within any Local Responsibility Areas. The FHSZ maps are used by the State Fire Marshall as a basis for the adoption of applicable building code standards.

LOCAL RESPONSIBILITY AREAS

The majority of the developed portions of the Planning Area (east and west of the Interstate 5 corridor) is located within a Local Responsibility Area (LRA). CalFire has determined that Glenn County has no Very High Fire Hazard Severity Zones (VHFHSZ) within Local Responsibility Areas. Figure 3.8-1 shows Fire Hazard Severity Zones for Local, State, and Federal Responsibility Areas.

STATE RESPONSIBILITY AREAS

State Responsibility Areas (SRAs) within the Planning Area generally bisect the county from north to south beginning roughly 5 miles west of Interstate 5 moving west through the foothill region. FHSZ within the SRAs range from “Moderate” to “Very High”. Figure 3.8-1 shows Fire Hazard Severity Zones for State Responsibility Areas.

FEDERAL RESPONSIBILITY AREAS

As shown on Figure 3.8-1 there are several areas designated as Federal Responsibility Areas (FRA) within the Planning Area. The majority of FRA's are located on the western side of the foothill region and include the Dogtown, Alder Springs, Fiddlers Green, and Copper City areas.

3.8.2 REGULATORY SETTING

FEDERAL

Aviation Act of 1958

The Federal Aviation Act resulted in the creation of the Federal Aviation Administration (FAA). The FAA is charged with the creation and maintenance of a National Airspace System.

Federal Aviation Regulations (CFR, Title 14)

The Federal Aviation Regulation (FAR) establish regulations related to aircraft, aeronautics, and inspection and permitting.

Clean Air Act

The Federal Clean Air Act (FCAA) was first signed into law in 1970. In 1977, and again in 1990, the law was substantially amended. The FCAA is the foundation for a national air pollution control effort, and it is composed of the following basic elements: NAAQS for criteria air pollutants, hazardous air pollutant standards, state attainment plans, motor vehicle emissions standards, stationary source emissions standards and permits, acid rain control measures, stratospheric ozone protection, and enforcement provisions.

Clean Water Act (CWA)

The CWA, which amended the Water Pollution Control Act (WPCA) of 1972, sets forth the §404 program to regulate the discharge of dredged and fill material into Waters of the U.S. and the §402 National Pollutant Discharge Elimination System (NPDES) to regulate the discharge of pollutants into Waters of the U.S. The §401 Water Quality Certification program establishes a framework of water quality protection for activities requiring a variety of Federal permits and approvals (including CWA §404, CWA §402, FERC Hydropower and §10 Rivers and Harbors).

Comprehensive Environmental Response, Compensation, and Liability Act

The Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA) introduced active Federal involvement to emergency response, site remediation, and spill prevention, most notably the Superfund program. The Act was intended to be comprehensive in encompassing both the prevention of, and response to, uncontrolled hazardous material releases. CERCLA deals with environmental response, providing mechanisms for reacting to emergencies and to chronic hazardous material releases. In addition to establishing procedures to prevent and remedy problems, it establishes a system for compensating appropriate individuals and assigning appropriate liability. It is designed to plan for and respond to failure in other regulatory programs

and to remedy problems resulting from action taken before the era of comprehensive regulatory protection.

Environmental Protection Agency

The primary regulator of hazards and hazardous materials is the EPA, whose mission is to protect human health and the environment. Glenn County is located within EPA Region 9, which includes Arizona, California, Hawaii, and New Mexico.

FY 2001 Appropriations Act

Title IV of the Appropriations Act required the identification of “Urban Wildland Interface Communities in the Vicinity of Federal Lands that are at High Risk from Wildfire” by the U.S. Departments of the Interior and Agriculture.

Hazardous Materials Transportation Act

The Hazardous Materials Transportation Act, as amended, is the statute regulating hazardous materials transportation in the United States. The purpose of the law is to provide adequate protection against the risks to life and property inherent in transporting hazardous materials in interstate commerce. This law gives the U.S. Department of Transportation (USDOT) and other agencies the authority to issue and enforce rules and regulations governing the safe transportation of hazardous materials (DOE 2002).

Natural Gas Pipeline Safety Act

The Natural Gas Pipeline Safety Act authorizes the U.S. Department of Transportation Office of Pipeline Safety to regulate pipeline transportation of natural (flammable, toxic, or corrosive) gas and other gases as well as the transportation and storage of liquefied natural gas. The Office of Pipeline Safety regulates the design, construction, inspection, testing, operation, and maintenance of pipeline facilities. While the Federal government is primarily responsible for developing, issuing, and enforcing pipeline safety regulations, the pipeline safety statutes provide for State assumption of the intrastate regulatory, inspection, and enforcement responsibilities under an annual certification. To qualify for certification, a state must adopt the minimum Federal regulations and may adopt additional or more stringent regulations as long as they are not incompatible.

Resource Conservation and Recovery Act

The Resources Conservation and Recovery Act (RCRA) established EPA’s “cradle to grave” control (generation, transportation, treatment, storage and disposal) over hazardous materials and wastes. In California, the Department of Toxic Substances Control (DTSC) has RCRA authorization.

STATE

Aeronautics Act (Public Utilities Code §21001)

The Caltrans Division of Aeronautics bases the majority of its aviation policies on the Aeronautics Act. Policies include permits and annual inspections for public airports and hospital heliports and recommendations for schools proposed within two miles of airport runways.

Airport Land Use Commission Law (Public Utilities Code §21670 et seq.)

The law, passed in 1967, authorized the creation of Airport Land Use Commissions (ALUC) in California. Per the Public Utilities Code, the purpose of an ALUC is to protect *public health, safety, and welfare by encouraging orderly expansion of airports and the adoption of land use measures that minimizes exposure to excessive noise and safety hazards within areas around public airports to the extent that these areas are not already devoted to incompatible uses* (Pub. Util. Code §21670). Furthermore, each ALUC must prepare an Airport Land Use Compatibility Plan (ALUCP). Each ALUCP, which must be based on a twenty-year planning horizon, should focus on broadly defined noise and safety impacts.

Assembly Bill 337

Per AB 337, local fire prevention authorities and the California Department of Forestry and Fire Protection (CalFire) are required to identify Very High Fire Hazard Severity Zones (VHFHSZ) in Local Responsibility Areas (LRA). Standards related to brush clearance and the use of fire resistant materials in fire hazard severity zones are also established.

California Code of Regulations

Title 3 of the CCR pertains to the application of pesticides and related chemicals. Parties applying regulated substances must continuously evaluate application equipment, the weather, the treated lands and all surrounding properties. Title 3 prohibits any application that would:

- Contaminate persons not involved in the application;
- Damage non-target crops or animals or any other public or private property; and
- Contaminate public or private property or create health hazards on said property.

Title 8 of the CCR establishes California Occupational Safety and Health Administration (Cal OSHA) requirements related to public and worker protection. Topics addressed in Title 8 include materials exposure limits, equipment requirements, protective clothing, hazardous materials, and accident prevention. Construction safety and exposure standards for lead and asbestos are set forth in Title 8.

Title 14 of the CCR establishes minimum standards for solid waste handling and disposal. Division 1.5 (Department of Forestry and Fire Protection), Title 14 of the CCR establishes a variety of wildfire preparedness, prevention, and response regulations.

Title 17 of the CCR establishes regulations relating to the use and disturbance of materials containing naturally occurring asbestos.

3.8 HAZARDS AND HAZARDOUS MATERIALS

Title 19 of the CCR establishes a variety of emergency fire response, fire prevention, and construction and construction materials standards.

Title 22 of the CCR sets forth definitions of hazardous waste and special waste. The section also identifies hazardous waste criteria and establishes regulations pertaining to the storage, transport, and disposal of hazardous waste.

Title 24 of the CCR is the California Building Standards Code. The California Fire Code is set forth in Part 9 of the Building Standards Code. The CA Fire Code, which is pre-assembled with the International Fire Code by the ICC, contains fire-safety building standards referenced in other parts of Title 24.

Title 26 of the CCR is a medley of State regulations pertaining to hazardous materials and waste that are presented in other regulatory sections. Title 26 mandates specific management criteria related to hazardous materials identification, packaging, and disposal. In addition, Title 26 establishes requirements for hazardous materials transport, containment, treatment, and disposal. Finally, staff training standards are set forth in Title 26.

Title 27 of the CCR sets forth a variety of regulations relating to the construction, operation, and maintenance of the state's landfills. The title establishes a landfill classification system and categories of waste. Each class of landfill is constructed to contain specific types of waste (household, inert, special, and hazardous).

California Department of Transportation

Caltrans has adopted policy and guidelines relating to traffic noise as outlined in the Traffic Noise Analysis Protocol (Caltrans 2011). The noise abatement criteria specified in the protocol are the same as those specified by FHWA.

California Government Code Section 65302

This section, which establishes standards for developing and updating General Plans, includes fire hazard assessment and Safety Element content requirements.

California Health and Safety Code

Division 11 of the Health and Safety Code establishes regulations related to a variety of explosive substances and devices, including high explosives and fireworks. Section 12000 et seq. establishes regulations related to explosives and explosive devices, including permitting, handling, storage, and transport (in quantities greater than 1,000 pounds).

Division 12 establishes requirements for buildings used by the public, including essential services buildings, earthquake hazard mitigation technologies, school buildings, and postsecondary buildings.

Division 20 establishes DTSC authority and sets forth hazardous waste and underground storage tank regulations. In addition, the division creates a State superfund framework that mirrors the Federal program.

Division 26 establishes California Air Resources Board (CARB) authority. The division designates CARB as the air pollution control agency per Federal regulations and charges the Board with meeting Clean Air Act requirements.

California Health and Safety Code §1300 et seq., and CA Building Codes.

State fire regulations are set forth in §13000 *et seq.* of the California Health and Safety Code, which is divided into “Fires and Fire Protection” and “Buildings Used by the Public.” The regulations provide for the enforcement of the CA Building Codes and mandate the abatement of fire hazards.

The code establishes broadly applicable regulations, such as standards for buildings and fire protection devices, in addition to regulations for specific land uses, such as childcare facilities and high-rise structures.

California Vehicle Code §31600 (Transportation of Explosives)

This code establishes requirements related to the transportation of explosives in quantities greater than 1,000 pounds, including licensing and route identification.

California Public Resources Code

The State’s Fire Safety Regulations are set forth in Public Resources Code §4290, which include the establishment of State Responsibility Areas (SRA).

Public Resources Code §4291 sets forth defensible space requirements, which are applicable to anyone who “...owns, leases, controls, operates, or maintains a building or structure in, upon, or adjoining a mountainous area, forest-covered lands, brush-covered lands, grass-covered lands, or land that is covered with flammable material” (§4291(a)).

Food and Agriculture Code

Division 6 of the California Food and Agriculture Code (FAC) establishes pesticide application regulations. The division establishes training standards for pilots conducting aerial applications as well as permitting and certification requirements.

State Oversight of Hazards and Hazardous Materials

The DTSC is chiefly responsible for regulating the handling, use, and disposal of toxic materials. The State Water Resources Control Board (SWRCB) regulates discharge of potentially hazardous materials to waterways and aquifers and administers the basin plans for groundwater resources in the various regions of the state. The RWQCB oversees surface and groundwater. Programs intended to protect workers from exposure to hazardous materials and from accidental upset are covered under OSHA at the Federal and California Division of Occupational Safety and Health (Cal/OSHA) and the California Department of Health Services (DHS) at the state level. Air quality is regulated through the CARB and Bay Area Air Quality Management District. The State Fire Marshal is responsible for the protection of life and property through the development and application of fire prevention engineering, education, and enforcement; CalFire provides fire protection services for State and privately-owned wildlands.

CA Fire Code

The California Fire Code (CFC) establishes standards related to the design, construction, and maintenance of buildings. The standards set forth in the CFC range from designing for access by firefighters and equipment and minimum requirements for automatic sprinklers and fire hydrants to the appropriate storage and use of combustible materials

Glenn County Office of Emergency Services

The Glenn County Office of Emergency Services has adopted a Glenn County Operational Area Emergency Operations Plan (OA EOP), which identifies emergency response programs related to hazardous waste incidents.

Glenn County Multi-Jurisdiction Hazard Mitigation Plan

Glenn County, along with the incorporated cities of Orland and Willows has completed the draft of the 2016 Glenn County Multi-Jurisdiction Hazard Mitigation Plan (MJHMP). The MJHMP will identify natural hazards that may affect the County, their impacts, and the desired mitigation actions to address and minimize the risk and future losses from natural hazards such as flooding, severe storms, earthquakes, and wildland fires. Additionally, the MJHMP will also serve to meet key federal planning regulations that require local governments to develop a hazard mitigation plan as a condition for receiving certain types of non-emergency disaster assistance, including funding for hazard mitigation projects.

Glenn County Operational Area Emergency Operations Plan

The Glenn County Operational Area Emergency Operations Plan (EOP) addresses the response to extraordinary emergency situations associated with natural disasters and technological (man-made) emergencies in, or affecting, the Operational Area. This Plan may also provide the structure for responding to a planned event within the Operational Area.

An emergency is a situation that requires immediate action beyond the scope of normal operations and mutual aid. It is beyond the control of the services, personnel, equipment, and facilities of that particular political subdivision and requires the combined forces of other political subdivisions to combat (California Emergency Services Act § 8558(c)).

Section 8559 of the California Government Code defines an operational area as “an intermediate level of the state emergency services organization, consisting of a county and all political subdivisions within the county geographical area”. The Glenn operational area comprises the cities of Orland and Willows and the unincorporated areas of the County.

This EOP serves the following purpose:

- A. To describe the Glenn County Operational Area emergency organization
- B. To provide guidance for disaster education, training, drills and exercises
- C. To provide planning guidance and references to more detailed information
- D. To provide a framework for response during emergencies, to include authorities and

- E. responsibilities and operational priorities for all potential responders and response leadership
- F. During emergencies, to conduct effective assessment, set priorities and make sure that
- G. necessary functions are carried out effectively and efficiently
- H. To provide for continuity of government during emergencies
- I. To provide for continuity of operations for essential services, both governmental and nongovernmental.

3.8.3 IMPACTS AND MITIGATION MEASURES

THRESHOLDS OF SIGNIFICANCE

Consistent with Appendix G of the CEQA Guidelines, the proposed project will have a significant impact from hazards and hazardous materials if it will:

- 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;
- Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan; or
- Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires.

IMPACTS AND MITIGATION MEASURES

Impact 3.8-1: General Plan implementation has the potential to create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials, or through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment (Less than Significant)

Future development, infrastructure, and other projects allowed under the General Plan may involve the transportation, use, and/or disposal of hazardous materials. Hazardous materials are typically used in industrial, and commercial uses, as well as for agricultural and residential uses. Future uses may involve the transport and disposal of such materials from time to time. Future activities may involve equipment or construction activities that use hazardous materials (e.g., coatings, solvents and fuels, and diesel-fueled equipment), cleanup of sites with known hazardous materials, the transportation of excavated soil and/or groundwater containing contaminants from areas that are identified as being contaminated, or disposal of contaminated materials at an approved disposal site. While hazardous materials may be associated with industrial activities, hazardous materials may also be associated with the regular cleaning and maintenance of residential and other less intense uses. Accidental release of hazardous materials that are used in the construction or operation of a project may occur. There is also the potential for accidental release of pre-existing hazardous materials, associated with previous activities on a site.

The use, transportation, and disposal of hazardous materials is regulated and monitored by local fire departments, CUPAs, the Cal OSHA and the DTSC consistent with the requirements of Federal, State, and local regulations and policies. Hazardous waste has been described, quantified and projected in the Glenn County Hazardous Waste Management Plan (CHWMP). There are currently no industries in the county authorized to provide onsite treatment of hazardous wastes, and there are no hazardous waste treatment, or disposal facilities located in Glenn County. The two major transportation corridors through the county, Interstate 5 and the railroad, as well as the other State highways, are routes for movement of large quantities of hazardous materials. Facilities that store hazardous materials on-site are required to maintain a Hazardous Materials Business Plan in accordance with State regulations. In the event of an accidental release of hazardous materials, the local CUPA and emergency management agencies (e.g., Police and Fire) would respond. The Glenn County Air Pollution Control District is the Administering Agency of the Certified Unified Program Agency (CUPA) for Glenn County. The Certified Unified Program Agency (CUPA) is responsible for implementing a unified hazardous materials and hazardous waste management regulatory program. The agency provides oversight of the six state-mandated programs:

1. Hazardous Material Business Plan (HMBP) / Area Plan Program
2. California Accidental Release Prevention Program (CalARP)
3. Underground Storage Tank Program (UST)
4. Aboveground Petroleum Storage Tank Program (APSA)
5. Hazardous Waste Generator / Tiered Permitting Program
6. Hazardous Material Management Plan / Hazardous Material Inventory Statement Program

Program Compliance is achieved through routine inspections of all regulated facilities, and investigation of citizen based complaints and inquiries regarding improper handling and/or disposal of hazardous materials and/or hazardous wastes. All regulated businesses must report their Hazardous Materials Business Plan (HMBP) electronically, using the California Environmental Reporting System (CERS).

All future projects allowed under the General Plan would be required to comply with the provisions of Federal, State, and local requirements related to hazardous materials. As future development and infrastructure projects are considered by the County, each project would be evaluated for potential impacts, specific to the project, associated with hazardous materials as required under CEQA.

In addition to the requirements associated with Federal and State regulations, the General Plan includes policies and actions to address potential impacts associated with hazardous materials among other issues. These policies and actions in the General Plan would ensure that potential hazards are identified on a project site, that development is located in areas where potential exposure to hazards and hazardous materials can be mitigated to an acceptable level, and that business operations comply with Federal and State regulations regarding the use, transport, storage, and disposal of hazardous materials. The General Plan also includes policies and actions to ensure that the County has adequate emergency response plans and measures to respond in the event of an accidental release of a hazardous substance.

As described previously in the regulatory setting, hazardous materials regulations related to the use, handling, and transport of hazardous materials are codified in Titles 8, 22, and 26 of the CCR, and their enabling legislation set forth in Chapter 6.95 of the California Health and Safety Code. These laws were established at the state level to ensure compliance with federal regulations to reduce the risk to human health and the environment from the routine use of hazardous substances. These regulations must be implemented by employers/businesses, as appropriate, and are monitored by the state (e.g., Cal OSHA in the workplace or DTSC for hazardous waste) and/or the County. Implementation of Title 49, Parts 171-180, of the Code of Federal Regulations would reduce any impacts associated with the potential for accidental release of hazardous materials. Therefore, implementation of the proposed General Plan policies and actions listed below, as well as Federal and State regulations, would result in a **less than significant** impacts associated with the routine use, transport, storage, or disposal or accidental release of hazardous materials.

GENERAL PLAN POLICIES AND ACTIONS THAT MINIMIZE POTENTIAL IMPACTS

SAFETY ELEMENT POLICIES

SA 4-1: Require businesses and agricultural operations to comply with all applicable local, state and federal regulations regarding the use, transport, storage and disposal of hazardous waste and hazardous materials.

SA 4-2: Utilize the development review process to reduce the risk of community exposure to hazardous materials.

SA 4-3: Encourage residents and businesses to minimize the use of toxic materials and products including the application of pesticides, and support education programs which increase the public awareness of the proper disposal of hazardous wastes in order to protect health, and resources such as groundwater quality.

SA 4-4: Require hazardous waste generated within the county to be disposed of in a safe manner, consistent with all applicable local, State, and Federal laws.

SA 4-5: Require hazardous materials to be stored in a safe manner, consistent with all applicable local, State, and Federal laws.

SA 4-6: Require compliance with the Glenn County Air Pollution Control District's Hazardous Waste Generator Program.

SA 4-7: Agricultural pesticide operations shall not occur when wind speed is in excess of 10 miles per hour (mph) or in meteorological conditions where inversion occurs. Generally, wind speeds of 3 to 7 mph are preferable. Pesticide manufacturers may impose further restrictions or requirements in regard to wind speed. In all cases, the label is the law. Contact the local County Agricultural Commissioner for specific requirements or conditions for the county in which pesticide operations are expected to occur.

SAFETY ELEMENT ACTIONS

Action SA-4a: Coordinate with the Glenn County Air Pollution Control District as the Certified Unified Program Agency (CUPA) to ensure that businesses that handle hazardous materials at or above threshold quantities must prepare and electronically submit a Hazardous Materials Management Plan (HMMP). The HMMP shall include business owner/operator identification, hazardous materials inventory, a site map, emergency response plan, and training program.

Action SA-4b: Provide educational opportunities for generators of small quantity, household and agriculture waste products regarding their responsibilities for source reduction and proper and safe hazardous waste management and disposal.

Action SA-4c: Provide information about drop-off programs for the local disposal of household hazardous waste offered Glenn County. The availability of the programs should be widely publicized throughout the community.

Action SA-4d: The County will refer all permits for new projects or major additions to existing uses located on sites identified by the State as having or containing likely hazardous substances or materials to the Glenn County Air Pollution Control District to ensure compliance with applicable State and local regulations. If warranted, identify and require measures to ensure the exposure to hazardous materials from historical uses has been mitigated to acceptable levels consistent with EPA and/or DTSC standards.

Action SA-4e: Continue to work cooperatively with the Fire Districts and the Glenn County Air Pollution Control District to train local personnel in the specialized identification, handling and cleanup procedures that are required for radioactive, toxic, and hazardous substance spills.

Impact 3.8-2: General Plan implementation has the potential to emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school (Less than Significant)

Glenn County is served by nine school districts, including Capay Joint Union Elementary School District, Glenn County Office of Education, Hamilton Unified School District, Lake Elementary School District, Orland Unified School District, Plaza Elementary School District, Princeton Joint Unified School District, Stony Creek Joint Unified School District, and Willows Unified School District.

The General Plan Land Use Element includes land use designations, but does not propose actual development projects, or businesses. As such, it is not possible to determine if a specific use will result in hazardous emissions or require handling of hazardous or acutely hazardous materials, substances, or waste. The uses and business operations with the highest possibility of having businesses that result in hazardous emissions or require handling of hazardous or acutely hazardous materials, substances, or waste would be manufacturing, and industrial, agricultural, and commercial businesses and uses. Some of these uses could occur within ¼ mile of an existing school facility. Each of these uses may use a variety of hazardous materials commonly found in urban areas including: paints, cleaners, and cleaning solvents. If handled appropriately, these materials do not pose a significant risk. The Manufacturing land use designation generally provides for a variety of light and heavy industrial activities, such as manufacturing, processing, packaging, warehousing and distribution. These types of activities may result in nuisance impacts to nearby sensitive receptors. The Light Industrial designation provides for a variety of light industrial uses that as indicated in the land use description are to be nonpolluting and which can co-exist with surrounding land uses and which do not in their maintenance, assembly, manufacturing or operations create smoke, gas, dust, sound, vibration, soot or glare to any degree which might be obnoxious or offensive to persons residing or conducting business in the County.

The proposed General Plan is not anticipated to directly lead to the establishment of new businesses that would emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste because the General Plan does not approve any specific development project. However, given the unknown nature of future business establishments within the commercial, manufacturing and industrial use areas, the potential for hazardous materials is present.

All hazardous materials would be required to be handled in accordance with Federal, State, and County requirements, which would limit the potential for a project to expose nearby uses, including schools, to hazardous emissions or an accidental release. Hazardous emissions are monitored by RWQCB, DTSC and the local CUPA. In the event of a hazardous materials spill or release, notification and cleanup operations would be performed in compliance with applicable Federal, State, and local regulations and policies, including hazard mitigation plans. As part of the development review

3.8 HAZARDS AND HAZARDOUS MATERIALS

process, the County's proposed General Plan also requires projects that may result in significant risks associated with hazardous materials to include measures to address and reduce the risks to an acceptable level such that surrounding uses are not exposed to hazardous materials in excess of adopted state and federal standards.

The General Plan includes a variety of policies and actions that support lands use compatibility. For example, General Plan Policy LU 2-14 requires proposed urban and rural residential development to demonstrate that the development is compatible with surrounding uses and will not have a significant, adverse effect on adjoining properties.

Furthermore, the Agricultural Element details a variety of policies aimed to reduce land use conflicts and limit impacts from agricultural operations to nearby uses including school facilities and other sensitive uses. For example, General Plan Policy AG 2-3 aims to limit incompatible uses (i.e., schools, hospitals, and higher density residential) near intensive agricultural operations. Where uses such as country schools are located within agricultural areas, the general plan calls for farmers and landowners to work to promote practices and methods aimed at reducing conflicts, which may include reductions in chemical applications, and dust abatement strategies. Additionally, Policy AG 2-9 requires the County to coordinate with the California Department of Pesticide Regulation (CDPR) and the Structural Pest Control Board (SPCB) to enforce state laws and regulations pertaining to pesticide use, sales, permitting, licensing, worker protection, and pesticide use reporting.

Compliance with all existing regulations as well as the proposed General Plan policies and actions related to land use compatibility and hazardous materials would result in a **less than significant** impact related to this topic.

GENERAL PLAN POLICIES AND ACTIONS THAT MINIMIZE POTENTIAL IMPACTS

SAFETY ELEMENT POLICIES

SA 4-1: Require businesses and agricultural operations to comply with all applicable local, state and federal regulations regarding the use, transport, storage and disposal of hazardous waste and hazardous materials.

SA 4-2: Utilize the development review process to reduce the risk of community exposure to hazardous materials.

SA 4-3: Encourage residents and businesses to minimize the use of toxic materials and products including the application of pesticides, and support education programs which increase the public awareness of the proper disposal of hazardous wastes in order to protect health, and resources such as groundwater quality.

SA 4-4: Require hazardous waste generated within the county to be disposed of in a safe manner, consistent with all applicable local, State, and Federal laws.

SA 4-5: Require hazardous materials to be stored in a safe manner, consistent with all applicable local, State, and Federal laws.

SA 4-6: Require compliance with the Glenn County Air Pollution Control District's Hazardous Waste Generator Program.

SA 4-7: Agricultural pesticide operations shall not occur when wind speed is in excess of 10 miles per hour (mph) or in meteorological conditions where inversion occurs. Generally, wind speeds of 3 to 7 mph are preferable. Pesticide manufacturers may impose further restrictions or requirements in regard to wind speed. In all cases, the label is the law. Contact the local County Agricultural Commissioner for specific requirements or conditions for the county in which pesticide operations are expected to occur.

AGRICULTURAL ELEMENT POLICIES

AG 2-3 As feasible, limit incompatible uses (i.e., schools, hospitals, and higher density residential) near intensive agricultural operations. Where uses such as country schools are located within agricultural areas, work with farmers and landowners to promote practices and methods aimed at reducing conflicts, which may include reductions in chemical applications, and dust abatement strategies.

AG 2-9 Coordinate with the California Department of Pesticide Regulation (CDPR) and the Structural Pest Control Board (SPCB) to enforce state laws and regulations pertaining to pesticide use, sales, permitting, licensing, worker protection, and pesticide use reporting.

SAFETY ELEMENT ACTIONS

Action SA-4a: Coordinate with the Glenn County Air Pollution Control District as the Certified Unified Program Agency (CUPA) to ensure that businesses that handle hazardous materials at or above threshold quantities must prepare and electronically submit a Hazardous Materials Management Plan (HMMP). The HMMP shall include business owner/operator identification, hazardous materials inventory, a site map, emergency response plan, and training program.

Action SA-4b: Provide educational opportunities for generators of small quantity, household and agriculture waste products regarding their responsibilities for source reduction and proper and safe hazardous waste management and disposal.

Action SA-4c: Provide information about drop-off programs for the local disposal of household hazardous waste offered Glenn County. The availability of the programs should be widely publicized throughout the community.

Action SA-4d: The County will refer all permits for new projects or major additions to existing uses located on sites identified by the State as having or containing likely hazardous substances or materials to the Glenn County Air Pollution Control District to ensure compliance with applicable State and local regulations. If warranted, identify and require measures to ensure the exposure to hazardous materials from historical uses has been mitigated to acceptable levels consistent with EPA and/or DTSC standards.

3.8 HAZARDS AND HAZARDOUS MATERIALS

Action SA-4e: Continue to work cooperatively with the Fire Districts and the Glenn County Air Pollution Control District to train local personnel in the specialized identification, handling and cleanup procedures that are required for radioactive, toxic, and hazardous substance spills.

Impact 3.8-3: General Plan implementation has the potential to have projects located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 (Less than Significant)

There are 29 locations with a Glenn County address that are listed in the Envirostor database. As previously shown, Table 3.8-1 lists the active sites and the inactive (needs evaluation or action required) sites within Glenn County.

There are 51 locations with a Glenn County address that are listed in the GeoTracker database for Leaking Underground Storage Tanks (LUST). Of the sites identified, 48 of the locations have undergone LUST cleanup and the State has closed the case. One site is eligible for closure, one site is open for site assessment, and one site is an open verification monitoring case. As previously shown, Table 3.8-2 lists the name and location for LUSTs in Glenn County.

Glenn County has 22 solid waste facilities listed in the database. 15 facilities in Glenn County have been closed. 6 facilities in Glenn County are active. 1 facility in Glenn County is inactive.

The above-mentioned sites are subject to various Federal and State laws and regulatory agencies, including the CERCLA, EPA, DTSC, and RWQCB. The General Plan does not propose or approve any specific development project, however development allowed by the General Plan could create a hazard to the public or the environment through a disturbance or release of contaminated materials if the development occurs on or adjacent to contaminated sites without appropriate measures to contain or mitigate the existing contamination. Federal and State regulations ensure that existing hazards, including those associated with known hazardous materials sites, are addressed prior to development. Additionally, the General Plan included policies and actions (listed below) that ensure sites are maintained and projects are reviewed for potential disturbance of or development that may impact hazardous materials.

Compliance with Federal and State regulations and the policies and actions included within the General Plan would ensure that potential impacts associated with the hazardous conditions on sites listed pursuant to Government Code Section 65962.5 would be **less than significant**.

GENERAL PLAN POLICIES AND ACTIONS THAT MINIMIZE POTENTIAL IMPACTS

SAFETY ELEMENT POLICIES

SA 4-2 Utilize the development review process to reduce the risk of community exposure to hazardous materials.

SAFETY ELEMENT ACTIONS

Action SA-1c Continue to maintain and provide an inventory of all natural hazards, including active faults, Alquist-Priolo Special Study Zones, floodplains, hazardous soil conditions, and dam failure inundation areas.

Action SA-4d The County will refer all permits for new projects or major additions to existing uses located on sites identified by the State as having or containing likely hazardous substances or materials to the Glenn County Air Pollution Control District to ensure compliance with applicable State and local regulations. If warranted, identify and require measures to ensure the exposure to hazardous materials from historical uses has been mitigated to acceptable levels consistent with EPA and/or DTSC standards.

Impact 3.8-4: The Planning Area is located within an airport land use plan, two miles of a public airport or public use airport, and would not result in a safety hazard for people residing or working in the project area (Less than Significant)

Hazards related to airports are typically grouped into two categories: air hazards and ground hazards. Air hazards jeopardize the safety of an airborne aircraft and expose passengers, pilots, and crews to danger. Examples of air hazards include tall structures, glare-producing objects, bird and wildlife attractants, radio waves from communication centers, or other features that have the potential to interfere with take-off or landing procedures, posing a risk to aircraft. Ground hazards jeopardize the safety of current and future residents and/or workers in the vicinity of an airport. The most obvious ground hazard is a crash, which may produce a serious, immediate risk to those residing in or using areas adjacent to the airport. Most accidents occur during take-off and landing. Therefore, the higher the density around an airport, including transportation facilities, the higher the risk associated with this type of hazard.

There are two airport facilities located within the Planning Area as described previously. The Planning Area is located within the airport influence area and approach and overflight safety zones. Glenn County has prepared the General Plan to include policies and actions intended to ensure future developments are consistent with Airport's Comprehensive Airport Land Use Plans. General Plan Policy LU 4.9 ensures that development within the vicinity of an Airport is consistent with the compatible uses identified in the Project Review Guidelines for the Airport Land Use Commission. Additionally, Safety Element Action SA-5a and b requires as part of the development review process, new development and expansion proposals near the Airports to be reviewed for consistency with setbacks, land use restrictions, and height as determined by the Federal Aviation Administration (FAA) and the County Airport Land Use Commission; and be provided to the Airport Land Use Commission for review.

Implementation of the General Plan policies and actions discussed above and listed below, as well as Federal and State regulations, would ensure that potential impacts from General Plan implementation relative to this topic would be **less than significant**.

3.8 HAZARDS AND HAZARDOUS MATERIALS

GENERAL PLAN POLICIES AND ACTIONS THAT MINIMIZE POTENTIAL IMPACTS

LAND USE ELEMENT POLICIES

LU 4-9 Support the orderly growth of the Willows-Glenn County and Orland-Haigh Field airports, the development of compatible uses for the areas surrounding these airports, and safeguard the general welfare of the inhabitants within the vicinity of each airport and the public in general.

SAFETY ELEMENT POLICIES

SA 5-1 Ensure that land uses within the vicinity of airports and airstrips are compatible with airport restrictions and operations.

SA 5-2 Ensure that all development proposals in the vicinity of local airports are consistent with the restrictions and requirements contained in the Orland and Willows Airport Land Use Plans and Design Standards.

SA 5-3 The County shall ensure that new development proposals do not result in encroachments into future airport expansion areas and do not result in adverse economic impacts to airport operations.

SA 5-4 Work cooperatively with the Airport Land Use Commission to ensure continued airport operations in a safe and cost-effective manner, consistent with the public's needs and applicable regulations from the Caltrans Division of Aeronautics and the Federal Aviation Authority (FAA).

SAFETY ELEMENT ACTIONS

Action SA-5a As part of the development review process, new development and expansion proposals near the Orland and Willows Airports, and public and private airstrips shall be:

- *Reviewed for consistency with setbacks, land use restrictions, and height as determined by the Federal Aviation Administration (FAA) and the County Airport Land Use Commission;*
- *Provided to the Airport Land Use Commission for review.*

Action SA-5b As part of future planning efforts, the Department of Planning & Community Development Services shall review and provide input into updates to the Comprehensive Airport Land Use Plans to ensure that new development within Airport Safety Zones is compatible with existing airport operations, and that any changes or improvements to the airport facility or operations are compatible with land uses within this zone.

Impact 3.8-5: General Plan implementation has the potential to impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan (Less than Significant)

The General Plan would allow a variety of new development, including residential, commercial, industrial, and public projects, which would result in increased jobs and population in Glenn County. Road and infrastructure improvements would occur to accommodate the new growth. Future development and infrastructure projects are not anticipated to remove or impede any established evacuation routes within the County. Furthermore, the General Plan does not include land uses,

policies, or other components that conflict with adopted emergency response or evacuation plans. However, given that the type, location, and size of future development and infrastructure projects is not known at this time, there is the potential that the County could receive a development proposal that could potentially interfere with an established emergency evacuation route or plan.

According to the Glenn County Emergency Operations Plan, Glenn County is a partner of the Glenn County Operation Area and the Glenn County Emergency Management Organization. Both of these entities provide mutual aid to communities via the Glenn County Sheriff's Department and the State of California Office of Emergency Services. This plan applies to all jurisdictions and agencies that operate within Glenn County. This plan delegates Glenn County Sheriff's Office – Office of Emergency Services the authority and responsibility for the coordination and administration of emergency operations for the Operational Area of Glenn County. Any agency and jurisdiction within the Operational Area has the responsibility to develop and maintain plans, policies, and procedures pertaining to emergency and disaster response operations of their agencies and/or jurisdiction.

The General Plan includes a goal to protect human life, safety, and property throughout the community by ensuring that Glenn County is prepared to provide an organized response to natural and human caused emergencies. The General Plan ensures that the County's emergency access routes, emergency contact lists, and public information regarding designated facilities and routes are regularly reviewed to ensure that up to date information is available to the County and the public in the event of an emergency. Important new critical facilities would be located to ensure resiliency in the event of a natural disaster. Implementation of the proposed General Plan policies and actions listed below would result in a **less than significant** impact related to this topic.

GENERAL PLAN POLICIES AND ACTIONS THAT MINIMIZE POTENTIAL IMPACTS

SAFETY ELEMENT POLICIES

SA 3-1: Ensure that during natural catastrophes and emergency situations, the County can continue to provide essential emergency services.

SA 3-2: Ensure that new critical facilities are located in areas that minimize exposure to potential natural hazards.

SA 3-3: Promote ongoing training of County staff on their functions and responsibilities in disaster preparedness.

SA 3-4: Ensure that critical facilities are properly supplied and equipped to provide emergency services.

SA 3-5: Coordinate with the California Emergency Management Agency to ensure coordinated local and state-level responses in the event of an emergency.

SA 3-6: Support local and regional disaster planning and emergency response planning efforts, and look for opportunities to collaborate and share resources with other municipalities in the region.

SA 3-7: Promote public safety through public education programs.

3.8 HAZARDS AND HAZARDOUS MATERIALS

SA 3-8: Ensure that adequate two-way vehicular ingress and egress is maintained to critical facilities and residential development areas to provide for safe and efficient evacuation and access during an emergency event, particularly within areas subject to wildland fire hazards.

SAFETY ELEMENT ACTIONS

Action SA-3a: Continue to implement the Local Hazard Mitigation Plan (LHMP) for Glenn County.

Action SA-3b: Conduct periodic emergency response training exercises and or participate in other area exercises to ensure that key members, local leaders, and emergency response personnel are adequately trained and prepared for emergency situations. Critical facilities within the county should also be annually assessed to ensure they are properly supplied.

Action SA-3c: Encourage residents, County staff, and community leaders to participate in disaster training programs, and develop educational programs that will increase public awareness of fire safety and emergency response planning.

Action SA-3d: Provide signage at public buildings and critical facilities that contain Automated External Defibrillators (AEDs).

Action SA-3e: Develop and annually update an emergency contact list and emergency response information on the County's website. The information should include emergency access routes, available emergency resources, and contact information for emergency responders.

Action SA-3f: Coordinate with the Glenn County Disaster Council and the Director of Emergency Services to update the Emergency Response Plan and LHMP periodically, as needed to meet existing and projected future emergency services needs throughout Glenn County.

Action SA-3g: As part of the development review process, consult with the local fire department/district or CalFire in order to ensure that the project provides adequate emergency access.

Action SA-3h: As part of the development review process adopt findings when approving discretionary projects and permits that the project adequately provides for and/or does not impede emergency response.

Action SA-3i: Periodically review and update procedures for local implementation of the County Emergency Operations Plan (EOP).

Action SA-3j: Seek funding from State, Federal, and other sources to assist in emergency management planning, including community education and outreach describing public procedures and evacuation routes in the event of an emergency or natural disaster.

Impact 3.8-6: General Plan implementation has the potential to expose people or structures to a significant risk of loss, injury or death involving wildland fires (Less Than Significant)

Wildfires are a potential hazard to development and land uses located in the mountainous and forested areas of the County. The severity of wildfire problems depends on a combination of vegetation, climate, slope, and people. Weather is one of the most significant factors in determining the severity of wildfires; natural fire patterns are driven by conditions such as drought, temperature, precipitation, and wind, and also by changes to vegetation structure and fuel (i.e., biomass) availability. In addition to natural factors such as lightning, human activity is a primary factor contributing to the incidence of wildfires. Campfires, smoking, debris burning, arson, public utility infrastructure, and equipment use are common human-related causes of wildfires.

Fire threat determinations is a combination of two factors: 1) fire frequency, or the likelihood of a given area burning, and 2) potential fire behavior (hazard). These two factors are combined to create four threat classes ranging from moderate to extreme. Fire threat can be used to estimate the potential for impacts on various assets and values susceptible to fire. Impacts are more likely to occur and/or be of increased severity for the higher threat classes.

As shown in Figure 3.8-1, the majority of the developed portions of the Planning Area (east and west of the Interstate 5 corridor) are located within a Local Responsibility Area (LRA). CalFire has determined that Glenn County has no Very High Fire Hazard Severity Zones (VHFHSZ) within Local Responsibility Areas. State Responsibility Areas (SRAs) within the Planning Area generally bisect the county from north to south beginning roughly 5 miles west of Interstate 5 moving west through the foothill region. FHSZ within the SRAs range from “Moderate” to “Very High”. As shown on Figure 3.8-1 there are several areas designated as Federal Responsibility Areas (FRA) within the Planning Area. The majority of FRA’s are located on the western side of the foothill region and include the Dogtown, Alder Springs, Fiddlers Green, and Copper City areas.

The proposed General Plan includes requirements for adequate water supply, ensuring adequate emergency access, adequate fire protection services, fire safe design site standards, and ensuring public awareness regarding fire safety. All future projects allowed under the General Plan would be required to comply with the provisions of Federal, State, and local requirements related to wildland fire hazards, including State fire safety regulations associated with wildland-urban interfaces, fire-safe building standards, and defensible space requirements. As future development and infrastructure projects are considered by the County, each project would be evaluated for potential impacts, specific to the project, associated with wildland fire hazards as required under CEQA. Therefore, through Implementation of the proposed General Plan policies and actions listed below along with compliance with state and federal requirements would result in a **less than significant** impact.

3.8 HAZARDS AND HAZARDOUS MATERIALS

GENERAL PLAN POLICIES AND ACTIONS THAT MINIMIZE POTENTIAL IMPACTS

SAFETY ELEMENT POLICIES

SA 6-1: Require development to reduce risks to life and property associated with wildfire events through adherence to the relevant fire safe standards established in the Glenn County Code, County Ordinances, and other applicable regulations such as the State Fire Safe Regulations. New development that may result in significant wildfire risk, which does not meet the applicable State requirements, shall not be permitted.

SA 6-2: Support management and conservation of forested lands including fuel management strategies in wildland areas to reduce wildfire risks.

SA 6-3: Require adequate fire flow, water source and supply system, including adequate fire flows, prior to development approvals in very high or high Fire Hazard Severity Zones (FHSZs), as defined by Calfire.

SA 6-4: Development projects adjacent to significant wildland, forest, or open space areas with high fuel loads shall prepare and implement wildland fire management plans.

SA 6-5: Continue to implement the Glenn County Multi-Jurisdiction Hazard Mitigation Plan (MJHMP) to reduce risks associated with wildfire throughout Glenn County, and review any new development proposals with High and Very High Fire Hazard Zones for consistency with the MJHMP.

SA 6-6: Continue to implement the Glenn County Community Wildfire Protection Plan (CWPP) to reduce risks associated with wildfire throughout Glenn County, and review any new development proposals with High and Very High Fire Hazard Zones for consistency with the CWPP

SA 6-7: Prior to allowing redevelopment in an area devastated by wildfire, the County shall review safety conditions and require any redevelopment to meet all applicable State and County fire safe development standards.

SAFETY ELEMENT ACTIONS

Action SA-6a: Review, and revise, if necessary, the Glenn County Development Standards to require fire protection methods, including fuels management and adequate water supply, for new development and expansion projects in areas of high and very high Fire Hazard Severity Zones that meet or exceed the requirements established by the State Fire Safe Regulations. Fire protection methods may consist of the establishment of “defensible space” around structures, using fire resistant ground cover, building with fire-resistant roofing materials, fuel load reductions, visible home and street addressing and signage, and other appropriate measures.

Action SA-6b: Consult with the applicable fire protection district/agency during the review of development applications for projects within high and very high Fire Hazard Severity Zones.

Action SA-6c: Implement State recommendations for fire prevention in Fire Hazard Severity Zones.

Action SA-6d: Create public outreach and awareness programs to promote the development of “defensible space” around structures using areas free of fuel loads, fire resistant landscaping and fire-resistant building materials. Any new development within State Responsibility Areas or VHFHSZs shall be required to implement fuel modification efforts to reduce flammable materials around structures, homes, and subdivisions.

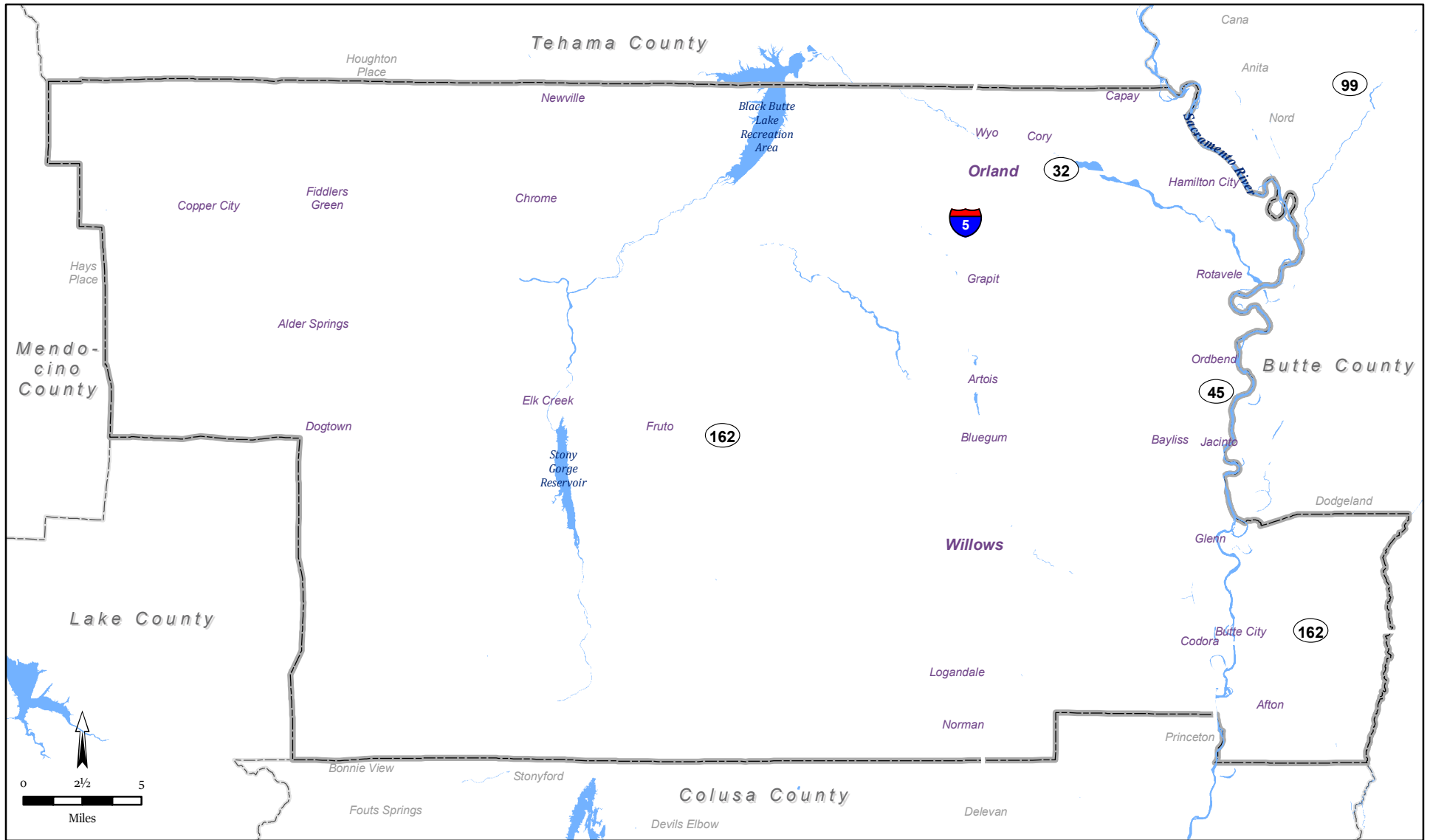
Action SA-6e: Periodically review and update key emergency and fire protection plan in Glenn County, including but not limited to the Glenn County Multi-Jurisdiction Hazard Mitigation Plan (MJHMP) and the Glenn County Community Wildfire Protection Plan (CWPP). Future updates to these plans shall consider new growth and policy direction facilitated by this General Plan, and shall meet all applicable State requirements and incorporate industry best practices for fuel reduction and management, fuel breaks between communities, fire safety, emergency evacuation, and post-fire recovery.

Action SA-6f: Identify areas within Glenn County that are not adequately served by multiple evacuation routes which can be used during a fire or other natural disaster. Develop specific plans to improve the capacity, safety, and viability of evacuation routes to serve high-risk areas of the County, including areas located within High and Very High Fire Hazard Zones.

Action SA 6g: As part of any future updates to the MJHMP and the CWPP, identify existing development that does not meet or exceed the State Responsibility (SRA) Fire Safe Regulations, or the applicable Glenn County Development Code and/or Fire Safe Ordinance Requirements. Develop plans to bring these properties into compliance in order to mitigate fire risks. Mitigation plans may include, but are not limited to, improvement of emergency evacuation routes and removal/abatement of vegetative hazards.

Action SA-6h: Any new development proposed within a VHFMSZ shall be required to prepare and implement a fire protection plan that meets all applicable State requirements.

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Sources: Cal Fire - FRAP, Fire Hazard Severity Zones in SRA, adopted 11-7-2007. Map date: July 22, 2019.

COUNTY OF GLENN, CALIFORNIA

Legend

Fire Hazard Severity Zones in State Responsibility Areas

- Moderate
- High
- Very High

Responsibility Areas

- Federal Responsibility Area
- Local Responsibility Area*

* CAL FIRE has determined that Glenn County has no Very High Fire Hazard Severity Zones (VHFHSZ) within Local Responsibility Areas.

FIGURE 3.8-1. FIRE HAZARD SEVERITY ZONES IN STATE RESPONSIBILITY AREAS

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This section provides a background discussion of the regional hydrology, flooding, water quality, water purveyors, and water sources in Glenn County. This section is organized with an existing setting, regulatory setting, and impact analysis.

No comments were received during the NOP comment period regarding this environmental topic.

KEY TERMS

Groundwater: Water that is underground and below the water table, as opposed to surface water, which flows across the ground surface. Water beneath the earth's surface fills the spaces in soil, gravel, or rock formations. Pockets of groundwater are often called "aquifers" and are the source of drinking water for a large percentage of the population in the United States. Groundwater is often extracted using wells which pump the water out of the ground and up to the surface. Groundwater is naturally replenished by surface water from precipitation, streams, and rivers when this recharge reaches the water table.

Surface water: Water collected on the ground or from a stream, river, lake, wetland, or ocean. Surface water is naturally replenished through precipitation, but is naturally lost through evaporation and seepage into soil.

3.9.1 ENVIRONMENTAL SETTING

REGIONAL HYDROLOGY

Glenn County is located in the Sacramento River watershed. The Sacramento River runs north-south through the eastern part of Glenn County, forming its eastern boundary on its way to the Delta and San Francisco Bay. Many tributary streams flow from the mountains on both sides of the valley into the Sacramento River. The Sacramento River is the primary source of surface irrigation water in the County. The total length of the Sacramento River is approximately 327 miles and its drainage area encompass approximately 27,200 square miles. For irrigation purposes, water from the river is diverted into two major canals, the Glenn-Colusa Canal and the Tehama-Colusa Canal. Stony Creek is also a predominant source of surface water, supporting two reservoirs within the County - Stony Gorge and Black Butte. Stony Creek is the second largest tributary on the west side of the Sacramento Valley; it merges with the Sacramento River south of Hamilton City. The Stony Creek watershed is 741 square miles and includes portions of Glenn, Colusa, and Tehama counties. The watershed is roughly divided into Upper Stony Creek and Lower Stony Creek, with Black Butte Reservoir forming the boundary. The majority of the upper watershed is publicly owned (Mendocino National Forest), while most (96%) of the lower watershed is privately owned agricultural land.

CLIMATE

Climate has a direct impact upon the availability of water in Glenn County. The Sacramento Valley Air Basin (SVAB) has an inland Mediterranean climate, with mild, rainy winter weather from November through March and warm to hot, dry weather from May through September. Sacramento Valley temperatures range from 20 to 115 degrees Fahrenheit and the average annual rainfall is 20 inches. The topographic features giving shape to the SVAB are the Coast Range to the west, the

3.9 HYDROLOGY AND WATER QUALITY

Sierra Nevada to the east, and the Cascade Range to the north. The predominant annual and summer wind pattern in the Sacramento Valley is the sea breeze commonly referred to as the “Delta breeze.” These cool winds originate from the Pacific Ocean and flow through a sea-level gap in the Coast Range called the Carquinez Strait.

Glenn County has warm, dry days and relatively cool nights, with clear skies and limited rainfall. Winters are mild with light rains. In summer, high temperatures often exceed 100 degrees, with averages in the mid and high 90’s. Summer low temperatures average in the high 50’s.

Rainfall in the Sierra Nevada, Coast Range, and Cascade Mountains contribute to surface water flow and groundwater recharge in the Sacramento River Basin. The general direction of surface water flow is toward the center of the valley, flowing south. Water diversions, evaporation, and groundwater recharge reduce flows as the Sacramento River approaches the Delta. Peak flow typically occurs in the months January through March and minimum flows typically occur September through November.

WATERSHEDS

A watershed is a region that is bound by a divide that drains to a common watercourse or body of water. Watersheds serve an important biological function, oftentimes supporting an abundance of aquatic and terrestrial wildlife including special-status species and anadromous and native local fisheries. Watersheds provide conditions necessary for riparian habitat.

The State of California uses a hierarchical naming and numbering convention to define watershed areas for management purposes. This means that boundaries are defined according to size and topography, with multiple sub-watersheds within larger watersheds. Table 3.9-1 shows the primary watershed classification levels used by the State of California. The second column indicates the approximate size that a watershed area may be within a particular classification level, although variation in size is common.

TABLE 3.9-1: STATE OF CALIFORNIA WATERSHED HIERARCHY NAMING CONVENTION

<i>WATERSHED LEVEL</i>	<i>APPROXIMATE SQUARE MILES (ACRES)</i>	<i>DESCRIPTION</i>
Hydrologic Region (HR)	12,735 (8,150,000)	Defined by large-scale topographic and geologic considerations. The State of California is divided into ten HRs.
Hydrologic Unit (HU)	672 (430,000)	Defined by surface drainage; may include a major river watershed, groundwater basin, or closed drainage, among others.
Hydrologic Area (HA)	244 (156,000)	Major subdivisions of hydrologic units, such as by major tributaries, groundwater attributes, or stream components.
Hydrologic Sub-Area (HSA)	195 (125,000)	A major segment of an HA with significant geographical characteristics or hydrological homogeneity.

SOURCE: CALWATER, CALIFORNIA INTERAGENCY WATERSHED MAPPING COMMITTEE 2008

Hydrologic Region

The majority of Glenn County is considered part of the Sacramento River Hydrologic Region. However, a small, western corner of the County contributes its drainage to the Pacific through the North Coast Hydrologic Region.

Sacramento River Hydrologic Region. The Sacramento River hydrologic region covers approximately 17.4 million acres (27,200 square miles). The region includes all or large portions of Modoc, Siskiyou, Lassen, Shasta, Tehama, Glenn, Plumas, Butte, Colusa, Sutter, Yuba, Sierra, Nevada, Placer, Sacramento, El Dorado, Yolo, Solano, Lake, and Napa counties, and small areas of Alpine and Amador counties. Geographically, the region extends south from the Modoc Plateau and Cascade Range at the Oregon border, to the Sacramento-San Joaquin Delta. The Sacramento Valley, which forms the core of the region, is bounded to the east by the crest of the Sierra Nevada and southern Cascades and to the west by the crest of the Coast Range and Klamath Mountains.

North Coast Hydrologic Region. The North Coast hydrologic region covers approximately 12.46 million acres (19,470 square miles) and includes all or portions of Modoc, Siskiyou, Del Norte, Trinity, Humboldt, Mendocino, Lake, and Sonoma counties, and small areas of Shasta, Tehama, Glenn, Colusa, and Marin counties. Extending from the Oregon border south to Tomales Bay, the region includes portions of four geomorphic provinces.

Hydrologic Unit

Within Glenn County there are two hydrologic units. These include the Lower Butte and Stony Creek.

Hydrologic Area

For purposes of planning on a County-wide basis, hydrologic areas are generally considered to be the appropriate watershed planning level. As specific projects within the County are developed the hydrologic area level may be too large in terms of scale, and a hydrologic subarea may be considered more appropriate. The remainder of this section is based on the hydrologic area level for watershed planning purposes.

Glenn County is located within 20 hydrologic areas. These include: Angel Slough, Black Butte River, Colusa Drain, Colusa Trough, Corbin Creek-Eel River, Grindstone Creek, Jewett Creek-Sacramento River, Little Stony Creek, Logan Creek, Lower Butte Creek, Lower Stony Creek, Middle Butte Creek, Middle Stony Creek, North Fork Stony Creek, Sacramento River, South Fork Willow Creek, Stone Corral Creek, Upper Stony Creek, Walker Creek, and Willows Creek. Figure 3.9-1 shows each watershed within the county.

Hydrologic Sub-Area

There are numerous hydrologic sub-areas within and throughout Glenn County's Planning Area. Analysis of hydrologic sub-areas is appropriate for the review of individual projects, but is not appropriate for the watershed analysis of the County's General Plan.

WATER BODIES AND CREEKS

The Sacramento River is the only major naturally occurring water body in Glenn County. The three major man-made water bodies in the County are the Tehama Colusa Canal, the Glenn Colusa Canal, and the Stoney Gorge Reservoir. The following discussion provides information on the location, ownership, infrastructure, and an overview of the operational practices of the major water bodies that relate to or are within Glenn County.

Sacramento River. The Sacramento River is the largest river in the regional area, which is aligned in a north-south direction. The Sacramento River passes through the area on its way to the Delta and San Francisco Bay. Many tributary streams flow from the mountains on either side of the valley and then across the valley floor to the Sacramento River. These tributaries provide much of the surface water supply within the Four County area. The major tributary streams in terms of flow volume in the Four County Area that originate west of the Sacramento River include Cottonwood Creek, Elder Creek, Thomes Creek, Sehorn creek, Stony Creek, Willow Creek, Logan Creek, Cortina Creek, and Sand Creek. Major tributary streams in the Four County area that originate east of the Sacramento River include Battle Creek, Paynes Creek, Antelope Creek, Mill Creek, Deer Creek, Pine Creek, Big Chico Creek, Butte Creek, and Little Dry Creek. Canals in the Four County area include the Tehama Colusa Canal, the Glenn Colusa Canal, Colusa Basin Drainage Canal, Cherokee Canal, Western Canal, and the Corning Canal.

According to a 2005 report by the Glenn County Department of Agriculture, monthly mean daily flows in the Sacramento River near Red Bluff in northern Tehama County range from 6,900 to 20,400 cfs for the period 1964-2003. Monthly mean daily flows in the Sacramento River near Grimes in Southern Colusa County range from 6,500 to 16,900 cfs for the period 1946-2003 (USGS 2003). Water diversions, groundwater recharge discussed in Section 3.4, and evaporation reduce flows in the river as it passes through the Four County area even with the inflows from the various tributaries. Peak flow typically occurs in January, February and March, while minimum flow occurs in September, October, and November

Tehama-Colusa Canal. The Tehama Colusa Canal receives water from the settling basin at Red Bluff Diversion Dam. Groundbreaking ceremonies for the canal took place July 31, 1965. The canal is 110.9 miles long. It travels south from Red Bluff Diversion Dam through Tehama, Glenn, Colusa Counties, and into Yolo County, and terminates about two miles south of Dunnigan, California. The initial capacity of the canal is 2,530 cubic feet per second, diminishing to 1,700 cubic feet per second at the terminus.

The Tehama Colusa Canal System diverts water from the Sacramento River for use by various water districts across the region. The canal system is owned by the U.S. Bureau of Reclamation (USBR) and operated by the Tehama Colusa Canal Authority (TCCA). The dam at Red Bluff is owned and operated by the USBR. Within this arrangement exists a network of release structures and pumps that frequently result in complex flow conditions in the canals and pipes that deliver water to the districts. The TCCA's mission statement is: "... to secure, protect, and develop dependable and affordable sources of water and to operate, maintain, and improve the works essential to deliver

such water.” Operating two canal systems for the USBR (the Tehama Colusa Canal, 110 miles long and the Corning Canal, 15 miles long), the combined system serves 17 water districts.

Glenn-Colusa Canal. The Glenn Colusa Canal is operated by the Glenn Colusa Irrigation District (GCID). GCID is the largest water district in the Sacramento Valley. Located approximately eighty miles north of Sacramento, California, the district boundaries cover approximately 175,000 acres; of which 153,000 acres are deeded property and 138,800 are irrigable. There are 1,076 landowners in the District and an additional 300 tenant water users. There are an additional 5,000 acres of private habitat land, and winter water supplied by GCID to thousands of acres of rice land provides valuable habitat for migrating waterfowl during the winter months.

GCID’s main pump station, its only diversion from the Sacramento River, is located near Hamilton City. The District’s 65-mile long Main Canal conveys water into a complex system of nearly 1,000 miles of canals, laterals and drains, much of it constructed in the early 1900s.

From its first diversions until 1964, GCID relied upon its historic water rights and adequate water supply from the Sacramento River hydrologic system which receives rainfall and snowmelt from a 27,246 square mile watershed with average runoff of 22,389,000 acre-feet, providing nearly one-third of the state’s total natural runoff. In 1964, after nearly two decades of negotiations with the United States, GCID along with other Sacramento River water rights diverters entered into “Settlement Water Contracts” with the USBR. These Settlement Contracts were necessary at that time to allow the USBR to construct, operate, and divert water for the newly constructed Central Valley Project. The contract provided GCID with water supply for the months of April through October for 720,000 acre-feet of base supply, and 105,000 acre-feet of Central Valley Project water that is purchased during the months of July and August. During a designated critical year when natural inflow to Shasta Reservoir is less than 3.2 million acre-feet, GCID’s total supply is reduced by 25 percent, to a total of 618,000 acre-feet.

Additionally, the District has rights under a (SWRCB permit to “winter water” from November 1 through March 31 at a 1,200 cfs diversion rate. This water supply is used for rice straw decomposition and waterfowl habitat. The permit provides 150,000 acre-feet for rice straw decomposition and 32,900 acre-feet for crop consumption.

Groundwater can be used to supplement GCID’s supplies, with 5,000 acre-feet available from District wells, and approximately 45,000 acre-feet from privately owned landowner wells.

Stony Gorge Reservoir. Stony Gorge Dam, which forms Stony Gorge Reservoir, is part of the Orland Project. Completed in 1928, the dam impounds Stony Creek for irrigation storage and flood control. Hydroelectric power is also produced. Along with the East Park Dam about fifteen miles upstream, it is part of the Orland Project in the Sacramento valley, one of the Bureau of Reclamation’s first generation of water projects. The dam is owned by the Bureau and is operated by the local Orland Unit Water Users` Association

The reservoir it creates has a water surface of 1,280 acres, a shoreline of about eighteen miles, and a maximum capacity of 58,500 acre-feet. Recreation includes camping, boating, and fishing. Stony

Gorge Reservoir is located approximately 21 miles west of Willows. The small community of Elk Creek lies immediately northwest of the reservoir, and the town of Stonyford lies a few miles south of the reservoir.

Local Creeks. Glenn County is primary creek drainages include Stony Creek, Willow Creek, and Walker Creek. Stony Creek flows from the mountainous uplands, through the foothills, and enters the Sacramento Valley just west of the Orland Buttes. It runs southwesterly into the Sacramento River about five miles southeast of Hamilton City. Draining foothill areas west of Stony Creek are Willow and Walker Creeks. Most northerly is Walker Creek which flows southeasterly, joining Willow Creek east of Willows. Willow Creek continues into Colusa County, eventually entering the Colusa Basin Drain.

GROUNDWATER

Groundwater Basins

There are seven groundwater basins within Glenn County: the Stonyford Town Area, Funks Creek, Squaw Flat, Stony Gorge Reservoir, Elk Creek Area, Chrome Town Area, and Sacramento Valley Groundwater Basins. Of these, all except the Sacramento Valley Groundwater Basin are small (less than 5 square miles) isolated basins located in the Coast Ranges in the central to western portions of the County. These small basins have not been divided into subbasins. The Stonyford Town Area and Funks Creek Groundwater Basins also extend into Colusa County. The Sacramento Valley Groundwater Basin, in contrast to the smaller basins described above, covers over 5,900 square miles and 10 counties, and has been divided into 18 subbasins. The majority of the county overlies the Sacramento Valley - Colusa Groundwater subbasin. Other prominent subbasins within the county are the Sacramento Valley- Butte subbasin at the southeast corner of the county, Sacramento Valley- Corning at the northern portion of the county. The Sacramento Valley – Butte, Colusa, and Corning basins are subbasins of the Sacramento Valley Groundwater Basin. Other minor basins including Chrome Town Area, Elk Creek, Funks Creek, Squaw Flat, Stony Gorge Reservoir and Stonyford Town Area. Figures 3.9-2 shows the groundwater basins within the county.

Sacramento Valley Groundwater Subbasins

Butte Subbasin. The Butte Subbasin is a portion of the larger Sacramento Valley Groundwater Basin covering approximately 207,342 acres. The subbasin spans Glenn and Tehama Counties and is bounded on the west by the Coast Ranges, on the north by Thomas Creek, on the east by the Sacramento River, and on the south by Stony Creek except for a small portion following the Glenn-Tehama County boundary

Colusa Subbasin. The Colusa Subbasin is a portion of the larger Sacramento Valley Groundwater Basin covering approximately 723,823 acres. The subbasin spans Glenn and Colusa Counties. It is generally bounded by Stony Creek to the north, the Coast Ranges to the west, to the east by the Sacramento River and the Reclamation District 1004 western boundary, and to the south by the Colusa-Yolo County boundary and the Colusa County Water District boundary. The Glenn Groundwater Authority (GGA) governs the Glenn County portion of the Colusa Subbasin and consists

of nine member agencies, including the City of Willows (GGA acreage 286,154). According to Department of Water Resources (DWR) Bulletin 118 Estimates of groundwater extraction for agricultural, municipal and industrial, and environmental wetland uses are 310,000, 14,000 and 22,000 acre-feet respectively. Deep percolation from applied water is estimated to be 64,000 acre-feet. The storage capacity of the subbasin was estimated based on estimates of specific yield for the Sacramento Valley. Estimates of specific yield, determined on a regional basis, were used to obtain a weighted specific yield conforming to the subbasin boundary. The estimated specific yield for the subbasin is 7.1 percent. The estimated storage capacity to a depth of 200 feet is approximately 13,025,887 acre-feet.

Corning Subbasin. The Corning Subbasin is a portion of the larger Sacramento Valley Groundwater Basin covering approximately 207,342 acres. The subbasin spans Glenn and Tehama Counties and is bounded on the west by the Coast Ranges, on the north by Thomas Creek, on the east by the Sacramento River, and on the south by Stony Creek except for a small portion following the Glenn-Tehama County boundary.

Groundwater Management

The Sustainable Groundwater Management Act (SGMA) passed in the fall of 2014, establishing a new structure for managing groundwater resources in California. The Department of Water Resources defines groundwater basins and subbasins and assigns a priority designation in relation to SGMA (High, Medium, Low, Very Low). High and Medium priority basins are required to be managed under SGMA by a Groundwater Sustainability Agency (GSA) or the State Water Resources Control Board. GSAs have the opportunity to manage groundwater at the local level by developing and implementing a Groundwater Sustainability Plan by 2022 and ensuring sustainable conditions by 2042 while avoiding six distinct undesirable results. If GSAs are not successful locally, the State Water Resources Control Board will intervene and assume responsibility for basin management. Glenn County has local GSA coverage and is currently compliant with SGMA.

GSAs will be working on the development of Groundwater Sustainability Plans (GSP) for the next several years. DWR has released the Groundwater Sustainability Plans and Projects Proposal Solicitation Package to allow agencies to apply for Proposition 1 grant funding to support GSP development and projects. GSAs within Glenn County are currently focused on applying for Proposition 1 grants for the development of GSPs within each subbasin to cover all areas within the County.

GSAs within Glenn County are currently focused on applying for Proposition 1 grants for the development of GSPs within each subbasin to cover all areas within the County. GSAs in the region are coordinating their Proposition 1 grant applications for GSP development in order to secure and maximize funding for shared subbasins.

Glenn County was also awarded a grant in 2016, as part of the Water Quality, Supply, and Infrastructure Improvement Act of 2014, (Sustainable Groundwater Planning Grant Program), administered by State of California, Department of Water Resources; in the amount of nearly \$250,000 to complete a project supporting Sustainable Groundwater Management Activities. With

the grant, Glenn County completed the Data Management and Hydrogeologic Conceptual Model Project (2016-2018) to support sustainable groundwater management activities. This Project includes the compilation of groundwater data, development of a groundwater data management system (DMS), creation of a water budget and hydrogeologic conceptual model (HCM), and ranking and scoring of groundwater-surface water modeling platforms. The data and models produced from this Project will be incorporated into one or more Sustainable Groundwater Management Act (SGMA) compliant Groundwater Sustainability Plans. The project concluded in July 2018.

WATER QUALITY

Under the USGS National Water Quality Assessment Program, the USGS conducted an intensive study of the Sacramento River Basin and collected data between 1995 and 1998. Through the sampling process, indicator streams were determined based upon the characterization that they drain small to intermediate sized watersheds with relatively homogeneous land use and geology.

The findings of the USGS study indicated that the water of the Sacramento River and its major tributaries is generally of good quality; the amount of dissolved solids in the Sacramento River and its major tributaries (Yuba, Feather, and American rivers) was low at all of the sampled locations. Higher median concentrations of dissolved solids occurred at agricultural sites such as the Sacramento Slough and Colusa Basin Drain, but those are diluted upon mixing with Sacramento River water. Nutrient concentrations such as nitrate also were low throughout the Sacramento River Basin, and drinking-water standards for nitrate were not exceeded during the course of this study. The concentrations of molinate and other pesticides (used in rice farming) measured during this study in the Colusa Basin Drain or in the Sacramento River, represent a significant improvement over concentrations measured in previous years.

Stormwater Quality

Potential hazards to surface water quality include the following nonpoint pollution problems: high turbidity from sediment resulting from erosion of improperly graded construction projects, concentration of nitrates and dissolved solids from agriculture or surfacing septic tank failures, contaminated street and lawn run-off from urban areas, and warm water drainage discharges into cold water streams.

The most critical period for surface water quality is following a rainstorm which produces significant amounts of drainage runoff into streams at low flow, resulting in poor dilution of contaminants in the low flowing stream. Such conditions are most frequent during the fall at the beginning of the rainy season when stream flows are near their lowest annual levels. Besides the greases, oils, pesticides, litter, and organic matter associated with such runoff, heavy metals such as copper, zinc, and cadmium can cause considerable harm to aquatic organisms when introduced to streams in low flow conditions.

Urban stormwater runoff was managed as a non-point discharge (a source not readily identifiable) under the Federal Water Pollution Control Amendments of 1972 (PL 92-500, Section 208) until the mid-1980's. However, since then, the Federal Environmental Protection Agency has continued to develop implementing rules which categorize urban runoff as a point source (an identifiable source) subject to National Pollution Discharge Elimination System (NPDES) permits. Rules now affect medium and large urban areas, and further rulemaking is expected as programs are developed to meet requirements of Federal water pollution control laws.

Surface water pollution is also caused by erosion. Excessive and improperly managed grading, vegetation removal, quarrying, logging, and agricultural practices all lead to increased erosion of exposed earth and sedimentation of watercourses during rainy periods. In slower moving water bodies these same factors often cause a buildup of siltation, which ultimately reduces the capacity of the water system to percolate and recharge groundwater basins, as well as adversely affecting both aquatic resources and flood control efforts.

Impaired Water Bodies

Section 303(d) of the federal Clean Water Act requires States to identify waters that do not meet water quality standards or objectives and thus, are considered "impaired." Once listed, Section 303(d) mandates prioritization and development of a Total Maximum Daily Load (TMDL). The TMDL is a tool that establishes the allowable loadings or other quantifiable parameters for a waterbody and thereby the basis for the States to establish Water quality-based controls. The purpose of TMDLs is to ensure that beneficial uses are restored and that water quality objectives are achieved.

According to the California Water Quality Control Monitoring Council, which is part of California Environmental Protection Agency, Natural Resources, there are many areas within Glenn County which are considered Section 303(d) impaired waterbodies. Nine watersheds within Glenn County have Section 303(d) listed impaired water bodies. The impaired water bodies are located within the Middle Butte Creek, Sacramento River, Colusa Drain, Upper Stony Creek, Middle Stony Creek, Lower Stony Creek, Walker Creek, Black Butte River, and Corbin Creek-Eel River hydrologic areas. These hydrologic areas extend beyond the county boundary so not all impaired water body segments are located within Glenn County. The pollution source is predominantly agricultural and crop related, although mercury, and resource extraction is also a pollution source. There are a few pollution sources that are not currently known.

FLOODING

Flooding is a temporary increase in water flow that overtops the banks of a river, stream, or overwhelms drainage channels and infrastructure to inundate adjacent areas not normally covered by water. Localized flooding may occur in low spots or where infrastructure is unable to accommodate peak flows during a storm event.

Glenn County's primary drainages include Stony Creek, Willow Creek, Walker Creek and the Sacramento River. Stony Creek flows from the mountainous uplands, through the foothills, and enters the Sacramento Valley just west of the Orland Buttes. It runs southwesterly into the Sacramento River about five miles southeast of Hamilton City. Draining foothill areas west of Stony Creek are Willow and Walker Creeks. Most northerly is Walker Creek which flows southeasterly, joining Willow Creek east of Willows. Willow Creek continues into Colusa County, eventually entering the Colusa Basin Drain. The Sacramento River, which is the chief source of surface irrigation water in the county, flows southward through the center of the Sacramento Valley, joins the San Joaquin River in the Delta, and then flows into the San Francisco Bay and the Pacific Ocean. Other streams draining Glenn County include Wilson Creek, French Creek, Logan Creek and Hunter Creek.

Some areas of the county adjacent to local waterways are subject to flooding during heavy rainfall. The largest floodplain consists of a narrow area parallel to the Sacramento River. Many old meander scars and oxbow lakes are found in the areas adjacent to the river.

Dams control the flow of Stony Creek and the Sacramento River, preventing severe flooding. Annual flooding occurs within the levee system that borders the river.

There are two main basin areas within the county, the Colusa Basin and the Butte Sink, which lies east of the river. Both areas experience occasionally flooding in winter because their terrain is nearly level and the soils are poorly drained. In many places they contain excess salts and alkali and have an intermittent high water table. In large areas, drainage ditches have been constructed and the soils partly reclaimed. Additionally, drainage modifications due to agricultural activities and modifications to local drainage may also increase localized flooding in the county.

Most of the mountains and foothills drain well, but parts of the intervening valleys drain poorly. The Black Butte River, Corbin Creek, and many other streams drain the area west of the crest of the Coast Ranges. These streams flow into the Eel River, one of the major streams draining the northern part of the Coast Ranges.

Small creeks drain the mountains east of the crest of the Coast Range. These creeks empty into Stony Creek, which flows northeast through the foothills into the Sacramento Valley drainage basin. Drainage in the foothills is by intermittent streams that flow only during the wet winter and spring months. Among the minor streams that drain the foothills are French, Hunter, Logan, Walker, Willow and Wilson Creeks. These streams flow east and southward into the Colusa Basin and rarely reach the Sacramento River.

The Glenn County Public Works Agency manages many special districts. These special districts are for Flood Control, Stream Cleaning and Street Lighting. The districts are designed to provide for the control of the flood and storm water flows within the designated areas of the special districts as well as countywide to protect the land, properties, facilities, and people within the county from damage caused by storm and flood waters.

FEMA Flood Zones

FEMA mapping provides important guidance for cities and counties planning for flooding events and regulating development within identified flood hazard areas. FEMA's National Flood Insurance Program (NFIP) is intended to encourage State and local governments to adopt responsible floodplain management programs and flood measures. As part of the program, the NFIP defines floodplain and floodway boundaries that are shown on Flood Insurance Rate Maps (FIRMs). The FEMA FIRM for the Planning Area is shown on Figure 3.9-3.

The Planning Area is subject to flooding problems along the natural creeks and drainages that traverse the area. The primary flood hazard is the Sacramento River and its tributaries.

The 100-year flood plain is largely confined to the southern and eastern portions of the County and along local Sacramento River tributaries. Additionally, the 500-year flood plain is generally mapped

near several developed portions of the county including near the Willows, Orland, Artois, Bluegum, and Hamilton City Planning areas.

TABLE 3.9-2: FEMA DELINEATED FLOOD ZONES IN GLENN COUNTY

FEMA DESIGNATION	ACRES (GIS)
100-yr	132,733
500-yr	4,801
Minimal	477,898
Regulated Floodway	2,664
Undetermined	231,455

SOURCES: FEMA MAP SERVICE CENTER, NFHL_06021C, LATEST STUDY EFFECTIVE DATA 8/5/2010, LATEST LOMR EFFECTIVE DATA 1/11/2011. MAP DATE: JULY 22, 2019.

Glenn County entered the NFIP on September 3, 1980. As a participant in the NFIP, the County is dedicated to regulating development in the FEMA regulated floodplain areas in accordance with NFIP criteria. Before a permit to build in a floodplain area is issued, Glenn County ensures that two basic criteria are met:

- All new buildings and developments undergoing substantial improvements must, at a minimum, be elevated to protect against damage by the 100-year flood.
- New floodplain developments must not aggravate existing flood problems or increase damage to other properties.

200-Year Flood Zones

SB 5 requires all urban and urbanizing areas in the Sacramento and San Joaquin Valleys to achieve 200-year Urban Level of flood protection (or a finding of adequate progress toward 200-year flood protection) in order to approve development. Currently the County does not have communities or regions that meet the standard to be considered an urban and urbanizing area. Detailed base flood 200-year flood mapping has not been developed for Glenn County. The Department of Water Resources Best Available Mapping (BAM) shows 200-year flood risk throughout the Central Valley including Glenn County. Figure 3.9-4 shows DWR's 200-Year flood mapping within the county. As shown on Figure 3.9-4, generally the 200-year flood is associated with areas east and west of the Sacramento River in the eastern portions of Glenn County.

Dam Inundation

Dam failure is the uncontrolled release of impounded water from behind a dam. Flooding, earthquakes, blockages, landslides, lack of maintenance, improper operation, poor construction, or sabotage can all cause a dam to fail. Dam failure can result in downstream flooding that can affect property and life. Dam Inundation maps have been required in California since 1972, following the 1971 San Fernando Earthquake and near failure of the Lower Van Norman Dam.

A major dam failure event has not occurred in Glenn County. A catastrophic failure of various dams in the region would have a significant impact on Glenn County. Devastation could occur in and along creeks and rivers to several hundred feet beyond normal reaches. Water levels could be many times

3.9 HYDROLOGY AND WATER QUALITY

higher than those recorded in the worst floods. Figure 3.9-5, shows dam failure inundation areas within the Planning Area that would be subject to inundation in the event of dam failure.

Earthquakes centered close to a dam are typically the most likely cause of dam failure. Dam Inundation maps have been required in California since 1972, following the 1971 San Fernando Earthquake and near failure of the Lower Van Norman Dam. The Planning Area has the potential to be inundated by several dams. According to CalOES, there are six dams in Glenn County. In addition to dams in Glenn County, there are four dams identified outside the county that have the potential to inundate portions of the county in the event of a dam failure. As listed below, these dams are in Tehama, Colusa, Shasta, and Butte Counties. The dam inundation area for each dam is shown in Figure 3.9-5. Each dam is identified in Table 3.9-3 below:

TABLE 3.9-3: DAMS WITH THE POTENTIAL TO IMPACT GLENN COUNTY

NAME	COUNTY/COMMUNITY	RIVER	OWNER TYPE	HEIGHT (FT)	STORAGE (ACRE FT)
<i>DAMS WITHIN COUNTY LIMITS</i>					
Upper Plaskett	Glenn/Elk Creek	Plaskett Creek	Public - Federal	28	21
Stony Gorge	Glenn/Elk Creek	Stony Creek	Public – Federal	119	50,350
Stony Creek Gravel	Glenn/Elk Creek	Stony Creek	Public Utility	10	100
E A Wright	Glenn/Grindstone	Small Creek	Private	38	650
Sanhedrin Ranch	Glenn/Copper City	TR Stony Creek	Private	27	210
Hamilton	Glenn/Grindstone	TR Watson Creek	Private	28	111
<i>DAMS OUTSIDE COUNTY LIMITS</i>					
Black Butte	Tehama / Glenn Tehama Counties	Stony Creek	Public - Federal	156	143,700
Shasta	Shasta /Shasta Lake	Sacramento River	Public – Federal	602	4,661,860
East Park	Colusa/Colusa	Little Stony Creek	Public-Federal	139	54,300
Oroville	Butte/Oroville	Feather River	Public - State	770	3,540,000

SOURCE: GLENN COUNTY, CA MULTI-JURISDICTION HAZARD MITIGATION PLAN 2018.

Of the dams identified above, Black Butte, and Stony Gorge (southeast of Elk Creek) have the greatest potential for causing loss of life and damage to the Glenn County region. Based on inundation zone mapping models of the dams, the dam failure hazard to Glenn County and the City of Willows is low; however, the severity of this hazard in the City of Orland is more severe.

Section 8589.5 of the California Government Code requires local jurisdictions to adopt emergency procedures for the evacuation of populated inundation areas identified by dam owners. The local Office of Emergency Services has prepared a Dam Failure Plan. This plan includes a description of dams, direction of floodwaters, responsibilities of local jurisdictions, and evacuation plans.

3.9.2 REGULATORY SETTING

There are a number of regulatory agencies whose responsibility includes the oversight of the water resources of the state and nation including the Federal Emergency Management Agency, the US Environmental Protection Agency, the State Water Resources Board, and the Regional Water Quality Control Board. The following is an overview of the federal, state and local regulations that are applicable to the proposed project.

FEDERAL

Clean Water Act

The CWA, initially passed in 1972, regulates the discharge of pollutants into watersheds throughout the nation. Section 402(p) of the act establishes a framework for regulating municipal and industrial stormwater discharges under the National Pollutant Discharge Elimination System (NPDES) Program. Section 402(p) requires that stormwater associated with industrial activity that discharges either directly to surface waters or indirectly through municipal separate storm sewers must be regulated by an NPDES permit.

The CWA establishes the basic structure for regulating the discharges of pollutants into the waters of the United States and gives the US Environmental Protection Agency (EPA) the authority to implement pollution control programs. The statute's goal is to regulate all discharges into the nation's waters and to restore, maintain, and preserve the integrity of those waters. The CWA sets water quality standards for all contaminants in surface waters and mandates permits for wastewater and stormwater discharges.

The CWA also requires states to establish site-specific water quality standards for navigable bodies of water and regulates other activities that affect water quality, such as dredging and the filling of wetlands. The following CWA sections assist in ensuring water quality for the water of the United States:

CWA Section 208 requires the use of best management practices (BMPs) to control the discharge of pollutants in stormwater during construction CWA Section 303(d) requires the creation of a list of impaired water bodies by states, territories, and authorized tribes; evaluation of lawful activities that may impact impaired water bodies, and preparation of plans to improve the quality of these water bodies. CWA Section 303(d) also establishes Total Maximum Daily Loads (TMDLs), which is the maximum amount of a pollutant that a water body can receive and still safely meet water quality standards CWA Section 404 authorizes the US Army Corps of Engineers to require permits that will discharge dredge or fill materials into waters in the US, including wetlands.

In California, the EPA has designated the State Water Resources Control Board (SWRCB) and its nine Regional Water Quality Control Boards (RWQCBs) with the authority to identify beneficial uses and adopt applicable water quality objectives.

The SWRCB is responsible for implementing the Clean Water Act and does so through issuing NPDES permits to cities and counties through regional water quality control boards. Federal regulations allow two permitting options for storm water discharges (individual permits and general permits).

Federal Emergency Management Agency (FEMA)

FEMA operates the National Flood Insurance Program (NFIP). Participants in the NFIP must satisfy certain mandated floodplain management criteria. The National Flood Insurance Act of 1968 has adopted as a desired level of protection, an expectation that developments should be protected from floodwater damage of the Intermediate Regional Flood (IRF). The IRF is defined as a flood that has an average frequency of occurrence on the order of once in 100 years, although such a flood may occur in any given year. Communities are occasionally audited by the California Department of Water Resources to insure the proper implementation of FEMA floodplain management regulations.

Rivers and Harbors Appropriation Act of 1899

One of the country's first environmental laws, this Act established a regulatory program to address activities that could affect navigation in Waters of the United States.

Water Pollution Control Act of 1972

The Water Pollution Control Act (WPCA) established a program to regulate activities that result in the discharge of pollutants to waters of the United States

Clean Water Act of 1977

The CWA, which amended the WPCA of 1972, sets forth the §404 program to regulate the discharge of dredged and fill material into Waters of the U.S. and the §402 National Pollutant Discharge Elimination System (NPDES) to regulate the discharge of pollutants into Waters of the U.S. The §401 Water Quality Certification program establishes a framework of water quality protection for activities requiring a variety of Federal permits and approvals (including CWA §404, CWA §402, FERC Hydropower and §10 Rivers and Harbors).

Flood Control Act

The Flood Control Act (1917) established survey and cost estimate requirements for flood hazards in the Sacramento Valley. All levees and structures constructed per the Act were to be maintained locally but controlled federally. All rights of way necessary for the construction of flood control infrastructure were to be provided to the Federal government at no cost.

Federal involvement in the construction of flood control infrastructure, primarily dams and levees, became more pronounced upon passage of the Flood Control Act of 1936.

National Flood Insurance Program (NFIP)

Per the National Flood Insurance Act of 1968, the NFIP has three fundamental purposes:

Better indemnify individuals for flood losses through insurance; Reduce future flood damages through State and community floodplain management regulations; and Reduce Federal expenditures for disaster assistance and flood control.

While the Act provided for subsidized flood insurance for existing structures, the provision of flood insurance by FEMA became contingent on the adoption of floodplain regulations at the local level.

Flood Disaster Protection Act (FDPA)

The FDPA of 1973 was a response to the shortcomings of the NFIP, which were experienced during the flood season of 1972. The FDPA prohibited Federal assistance, including acquisition, construction, and financial assistance, within delineated floodplains in non-participating NFIP communities. Furthermore, all Federal agencies and/or federally insured and federally regulated lenders must require flood insurance for all acquisitions or developments in designated Special Flood Hazard Areas (SFHAs) in communities that participate in the NFIP.

Improvements, construction, and developments within SFHAs are generally subject to the following standards:

- All new construction and substantial improvements of residential buildings must have the lowest floor (including basement) elevated to or above the base flood elevation (BFE).
- All new construction and substantial improvements of non-residential buildings must either have the lowest floor (including basement) elevated to or above the BFE or dry-floodproofed to the BFE.
- Buildings can be elevated to or above the BFE using fill, or they can be elevated on extended foundation walls or other enclosure walls, on piles, or on columns.
- Extended foundation or other enclosure walls must be designed and constructed to withstand hydrostatic pressure and be constructed with flood-resistant materials and contain openings that will permit the automatic entry and exit of floodwaters. Any enclosed area below the BFE can only be used for the parking of vehicles, building access, or storage.

National Pollutant Discharge Elimination System (NPDES)

National Pollutant Discharge Elimination System (NPDES) permits are required for discharges to navigable waters of the United States, which includes any discharge to surface waters, including lakes, rivers, streams, bays, oceans, dry stream beds, wetlands, and storm sewers that are tributary to any surface water body. NPDES permits are issued under the Federal Clean Water Act, Title IV, Permits and Licenses, Section 402 (33 USC 466 et seq.)

The RWQCB issues these permits in lieu of direct issuance by the Environmental Protection Agency, subject to review and approval by the EPA Regional Administrator (EPA Region 9). The terms of these NPDES permits implement pertinent provisions of the Federal Clean Water Act 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 Clean Water Act'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 CWA.

NPDES permitting authority is administered by the California State Water Resources Control Board (SWRCB) and its nine Regional Water Quality Control Boards (RWQCB). The Plan Area is in a watershed administered by the Central Valley (CVWQCB).

Individual projects in the County that disturb more than one acre would be required to obtain NPDES coverage under the California General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities (Construction General Permit). The Construction General Permit requires the development and implementation of a Storm Water Pollution Prevention Plan (SWPPP) describing Best Management Practices (BMP) the discharger would use to prevent and retain storm water runoff. The SWPPP must contain a visual monitoring program; a chemical monitoring program for “non-visible” pollutants to be implemented if there is a failure of BMPs; and a sediment monitoring plan if the site discharges directly to a waterbody listed on the 303(d) list for sediment.

STATE

California Water Code

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) (Porter-Cologne Act). The Porter-Cologne Act grants the SWRCB and each of the Regional Water Quality Control Boards (RWQCBs) power to protect water quality, and is the primary vehicle for implementation of California’s responsibilities under the Federal Clean Water Act. The Porter-Cologne Act grants the SWRCB and the RWQCBs authority and responsibility to adopt plans and policies, to regulate discharges to surface and groundwater, to regulate waste disposal sites and to require cleanup of discharges of hazardous materials and other pollutants. The Porter-Cologne Act also establishes reporting requirements for unintended discharges of any hazardous substance, sewage, or oil or petroleum product.

Each RWQCB must formulate and adopt a Water Quality Control Plan (Basin Plan) for its region. The regional plans are to conform to the policies set forth in the Porter-Cologne Act and established by the SWRCB in its State water policy. The Porter-Cologne Act also provides that a RWQCB may include within its regional plan water discharge prohibitions applicable to particular conditions, areas, or types of waste.

Water Quality Control Plan for the Central Valley Region

The Water Quality Control Plan for the Central Valley Region (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 Federal Clean Water Act, 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 the water quality standards.

The RWQCB regulates waste discharges to minimize and control their effects on the quality of the region’s ground and surface water. Permits are issued under a number of programs and authorities. The terms and conditions of these discharge permits are enforced through a variety of technical, administrative, and legal means. 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 necessary to allow all the beneficial uses of the water to be met, 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 California Water Code and the Clean Water Act.

Sacramento Valley Integrated Regional Water Management Plan

Northern California water suppliers in partnership with local governments, environmental representatives and state and federal agencies continue to refine an "Integrated Regional Water Management Plan for the Sacramento Valley" (Regional Plan). The Regional Plan is designed to protect Northern California water rights and supplies and it will serve as a roadmap for present and future generations to provide water for farms, cities, birds, fish and recreation.

Assembly Bill 162

This bill requires a general plan's land use element to identify and annually review those areas covered by the general plan that are subject to flooding as identified by flood plain mapping prepared by the Federal Emergency Management Agency (FEMA) or the Department of Water Resources (DWR). The bill also requires, upon the next revision of the housing element, on or after January 1, 2009, the conservation element of the general plan to identify rivers, creeks, streams, flood corridors, riparian habitat, and land that may accommodate floodwater for purposes of groundwater recharge and stormwater management. By imposing new duties on local public officials, the bill creates a State-mandated local program.

This bill also requires, upon the next revision of the housing element, on or after January 1, 2009, the safety element to identify, among other things, information regarding flood hazards and to establish a set of comprehensive goals, policies, and objectives, based on specified information for the protection of the community from, among other things, the unreasonable risks of flooding.

Assembly Bill 70

This bill provides that a city or county may be required to contribute its fair and reasonable share of the property damage caused by a flood to the extent that it has increased the State's exposure to liability for property damage by unreasonably approving, as defined, new development in a previously undeveloped area, as defined, that is protected by a State flood control project, unless the city or county meets specified requirements.

Senate Bill 5

Both State policy and recently enacted State legislation (Senate Bill 5) call for 200-year (0.5% annual chance) flood protection to be the minimum level of protection for urban and urbanizing areas in the Central Valley. Senate Bill 5 (SB5) requires that the 200-year protection be consistent with criteria used or developed by the Department of Water Resources. SB 5 requires all urban and urbanizing areas in the Sacramento and San Joaquin Valleys to achieve 200-year Urban Level of flood protection (or a finding of adequate progress toward 200-year flood protection) in order to approve development.

"Urban area" means a developed area in which there are 10,000 residents or more.

"Urbanizing area" means a developed area or an area outside a developed area that is planned or anticipated to have 10,000 residents or more within the next 10 years.

CA Government Code

The Senate and Assembly bills identified above have resulted in various changes and additions to the California Government Code. Key sections related to the above referenced bills are identified below.

SECTION 65302

Revised safety elements must include maps of any 200-year flood plains and levee protection zones within the Planning Area.

SECTION 65584.04

Any land having inadequate flood protection, as determined by FEMA or DWR, must be excluded from land identified as suitable for urban development within the planning area.

SECTION 8589.4

California Government Code §8589.4, commonly referred to as the Potential Flooding-Dam Inundation Act, requires owners of dams to prepare maps showing potential inundation areas in the event of dam failure. A dam failure inundation zone is different from a flood hazard zone under the National Flood Insurance Program (NFIP). NFIP flood zones are areas along streams or coasts where storm flooding is possible from a “100-year flood.” In contrast, a dam failure inundation zone is the area downstream from a dam that could be flooded in the event of dam failure due to an earthquake or other catastrophe. Dam failure inundation maps are reviewed and approved by the California Office of Emergency Services (OES). Sellers of real estate within inundation zones are required to disclose this information to prospective buyers.

SECTION 8609

The State Central Valley Flood Protection Board, under Section 8609 of the Water Code, has the authority to designate floodways in the Central Valley. California Code of Regulations, Title 23, Waters, provide further details of the Board’s regulatory authority. Specifically, Title 23, Article 5, Section 107 regulates uses in Designated Floodways.

California Fish and Wildlife Code

The California Department of Fish and Wildlife (CDFW) protects streams, water bodies, and riparian corridors through the streambed alteration agreement process under Section 1600 to 1616 of the California Fish and Game Code. The California Fish and Game Code establishes that “an entity may not substantially divert or obstruct the natural flow or substantially change the bed, channel or bank of any river, stream or lake, or deposit or dispose of debris, waste, or other material containing crumbled, flaked, or ground pavement where it may pass into any river stream, or lake” (Fish and Game Code Section 1602(a)) without notifying the CDFW, incorporating necessary mitigation and obtaining a streambed alteration agreement. The CDFW’s jurisdiction extends to the top of banks and often includes the outer edge of riparian vegetation canopy cover.

California Department of Health Services

The Department of Health Services, Division of Drinking Water and Environmental Management, oversees the Drinking Water Program. The Drinking Water Program regulates public water systems

and certifies drinking water treatment and distribution operators. It provides support for small water systems and for improving their technical, managerial, and financial capacity. It provides subsidized funding for water system improvements under the State Revolving Fund (“SRF”) and Proposition 50 programs. The Drinking Water Program also oversees water recycling projects, permits water treatment devices, supports and promotes water system security, and oversees the Drinking Water Treatment and Research Fund for MTBE and other oxygenates.

Consumer Confidence Report Requirements

California Code of Regulations (CCR) Title 22, Chapter 15, Article 20 requires all public water systems to prepare a Consumer Confidence Report for distribution to its customers and to the Department of Health Services. The Consumer Confidence Report provides information regarding the quality of potable water provided by the water system. It includes information on the sources of the water, any detected contaminants in the water, the maximum contaminant levels set by regulation, violations and actions taken to correct them, and opportunities for public participation in decisions that may affect the quality of the water provided.

Senate Bill (SB) 610 and Assembly Bill (AB) 901

The State Legislature passed SB 610 and AB 901 in 2001. Both measures modified the Urban Water Management Planning Act.

SB 610 requires additional information in an urban water management plan if groundwater is identified as a source of water available to an urban water supplier. It also requires that the plan include a description of all water supply projects and programs that may be undertaken to meet total projected water use. SB 610 requires a city or county that determines a project is subject to CEQA to identify any public water system that may supply water to the project and to request identified public water systems to prepare a specified water supply assessment. The assessment must include, among other information, an identification of existing water supply entitlements, water rights, or water service contracts relevant to the identified water supply for the proposed project, and water received in prior years pursuant to these entitlements, rights, and contracts.

AB 901 requires an urban water management plan to include information, to the extent practicable, relating to the quality of existing sources of water available to an urban water supplier over given time periods. AB 901 also requires information on the manner in which water quality affects water management strategies and supply reliability. The bill requires a plan to describe plans to supplement a water source that may not be available at a consistent level of use, to the extent practicable. Additional findings and declarations relating to water quality are required.

Senate Bill 221

SB 221 adds Government Code Section 66455.3, requiring that the local water agency be sent a copy of any proposed residential subdivision of more than 500 dwelling units within five days of the subdivision application being accepted as complete for processing by the city or county. It also adds Government Code Section 66473.7, establishing detailed requirements for establishing whether a “sufficient water supply” exists to support any proposed residential subdivisions of more than 500

dwellings, including any such subdivision involving a development agreement. When approving a qualifying subdivision tentative map, the city or county must include a condition requiring availability of a sufficient water supply. The applicable public water system must provide proof of availability. If there is no public water system, the city or county must undertake the analysis described in Government Code Section 66473.7. The analysis must include consideration of effects on other users of water and groundwater.

Urban Water Management Planning Act

The Urban Water Management Planning Act has as its objectives the management of urban water demands and the efficient use of urban water. Under its provisions, every urban water supplier is required to prepare and adopt an urban water management plan. An “urban water supplier” is a public or private water supplier that provides water for municipal purposes either directly or indirectly to more than 3,000 customers or supplying more than 3,000 acre-feet of water annually. The plan must identify and quantify the existing and planned sources of water available to the supplier, quantify the projected water use for a period of 20 years, and describe the supplier’s water demand management measures. The urban water supplier should make every effort to ensure the appropriate level of reliability in its water service sufficient to meet the needs of its various categories of customers during normal, dry, and multiple dry years. The Department of Water Resources must receive a copy of an adopted urban water management plan.

Central Valley (Region 5) Water Quality Control Board

The RWQCB regulates waste discharges to minimize and control their effects on the quality of the region’s ground and surface water. Permits are issued under a number of programs and authorities. The terms and conditions of these discharge permits are enforced through a variety of technical, administrative, and legal means. 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 necessary to allow all the beneficial uses of the water to be met, 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 California Water Code and the Clean Water Act.

State Water Resources Control Board (State Water Board) Storm Water Strategy

The Storm Water Strategy is founded on the results of the Storm Water Strategic Initiative, which served to direct the State Water Board’s role in storm water resources management and evolve the Storm Water Program by a) developing guiding principles to serve as the foundation of the storm water program, b) identifying issues that support or inhibit the program from aligning with the guiding principles, and c) proposing and prioritizing projects that the Water Boards could implement to address those issues.

The State Water Board staff created a strategy-based document called the Strategy to Optimize Management of Storm Water (STORMS). STORMS includes a program vision, missions, goals,

objectives, projects, timelines, and consideration of the most effective integration of project outcomes into the Water Board's Storm Water Program.

LOCAL

GLENN COUNTY WATER QUALITY PROGRAM

The Glenn County Water Quality Program if implemented through the Department of Environmental Health. The Water Quality Program is responsible for the enforcement of standards and codes regarding the construction and destruction of water wells, monitoring wells, exploratory soil borings and other special use wells.

The Glenn County Department of Environmental Health reviews and approves permit applications and conducts on-site inspections to verify proper seals, well locations and site information. All new wells must have an approved permit from the Environmental Health Department prior to the start of any construction. The purpose of the program is to protect groundwater quality and to ensure an adequate and safe drinking water supply for the residents of Glenn County. Improperly constructed, altered, maintained, or destroyed wells are a potential pathway for introducing poor quality water, pollutants, and contaminants into good-quality ground water.

GLENN GROUNDWATER AUTHORITY

The Glenn Groundwater Authority (GGA) is a nine-member, multi-agency Joint Powers Authority (JPA) that was formed on June 20, 2017. The GGA is the Groundwater Sustainability Agency (GSA) responsible for implementation of the Sustainable Groundwater Management Act (SGMA) in the Glenn County portion of the Colusa Subbasin (5-21.52). The Board of the GGA is composed of representatives of the following:

County of Glenn, City of Orland, City of Willows, Glenn-Colusa Irrigation District, Glide Water District, Princeton-Codora-Glenn/Provident Irrigation District (1 seat), Orland-Artois Water District, and Kanawha Water District formed with the primary purpose to comply with and implement SGM

The Glenn Groundwater Authority was created by forming a Joint Exercise of Powers Agreement, signed by nine local agencies, with the purposes of being a Groundwater Sustainability Agency for the Glenn County portion of the Colusa Subbasin.

COUNTY GROUNDWATER MANAGEMENT PLAN

Groundwater management in Glenn County is conducted in accordance with the management objectives in the Glenn County Groundwater Management Plan. The Glenn County Groundwater Management Plan was adopted by the Board of Supervisors on February 15, 2000 (Ordinance 1115) and requires that basin management objectives (BMOs) for minimum groundwater levels, minimum water quality and maximum inelastic subsidence be established for each of the 17 subareas within the plan area which generally includes areas of the county where irrigated agriculture is conducted; primarily in the Valley portion of the county.

3.9.3 IMPACTS AND MITIGATION MEASURES

THRESHOLDS OF SIGNIFICANCE

Consistent with Appendix G of the CEQA Guidelines, the proposed project will have a significant impact on the environment associated with hydrology and water quality if it will:

- Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality.
- Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan.
- Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin
- Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:
 - Result in substantial erosion or siltation on- or off-site;
 - Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite;
 - Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or
 - Impede or redirect flood flows.
- In flood hazard, tsunamis, or seiche zones, risk release of pollutants due to project inundation.

Impact 3.9-1: General Plan implementation could violate water quality standards or waste discharge requirements or otherwise substantially degrade water quality or obstruct implementation of a water quality control plan (Less than Significant)

CONSTRUCTION-RELATED WATER QUALITY IMPACTS

Grading, excavation, removal of vegetation cover, and loading activities associated with future construction activities could temporarily increase runoff, erosion, and sedimentation. Construction activities also could result in soil compaction and wind erosion impacts that could adversely affect soils and reduce the revegetation potential at construction sites and staging areas.

As required by the Clean Water Act, each subsequent development project or improvement project will require an approved Storm Water Pollution Prevention Plan (SWPPP) that includes best management practices for grading and preservation of topsoil. A SWPPP is not required if the project will disturb less than one acre. SWPPPs are designed to control storm water quality degradation to the extent practicable using best management practices during and after construction.

Future development project applicants must submit the SWPPP with a Notice of Intent to the RWQCB to obtain a General Permit. The RWQCB is an agency responsible for reviewing the SWPPP with the Notice of Intent, prior to issuance of a General Permit for the discharge of storm water during construction activities. The RWQCB accepts General Permit applications (with the SWPPP and Notice of Intent) after specific projects have been approved by the lead agency. The lead agency for each specific project that is larger than one acre is required to obtain a General Permit for discharge of storm water during construction activities prior to commencing construction (per the Clean Water Act).

The General Plan sets policies and actions for build-out of the County, but it does not envision or authorize any specific development project. Because of this, the site-specific details of potential future development projects are currently unknown and analysis of potential impacts of such projects is not feasible and would be speculative. However, each future project must include detailed project specific drainage plans that control storm water runoff and erosion, both during and after construction. The Regional Water Quality Control Board will require a project specific Storm Water Pollution Prevention Plan (SWPPP) to be prepared for each future project that disturbs an area one acre or larger. The SWPPPs will include project specific best management measures that are designed to control drainage and erosion.

NEW DEVELOPMENT-RELATED WATER QUALITY IMPACTS

New development and infrastructure improvements projects allowed under the proposed General Plan could introduce constituents into the storm water system that are typically associated with urban runoff. These constituents include sediments, petroleum hydrocarbons, pesticides, fertilizers, and heavy metals such as lead, zinc, and copper. These pollutants tend to build up during the dry months of the year. Precipitation during the early portion of the wet season (generally from November to April) washes away most of these pollutants, resulting in high pollutant concentrations

3.9 HYDROLOGY AND WATER QUALITY

in the initial wet weather runoff. This initial runoff is referred to as the “first flush” of storm events. Subsequent periods of rain would result in less concentrated pollutant levels in the runoff.

The majority of development allowed under the General Plan would be within areas currently developed with urban uses (as described in the Land Use Element and associated General Plan Existing Conditions Report), and the amount and type of runoff generated by various future development and infrastructure projects would be similar to existing conditions. However, new development and infrastructure projects have the potential to result in increases in the amount of impervious surfaces throughout Glenn County. Future increases in impervious surfaces would result in increased urban runoff, pollutants, and first flush roadway contaminants, as well as an increase in nutrients and other chemicals from landscaped areas. These constituents could result in water quality impacts to onsite and offsite drainage flows to area waterways.

Waters that are listed under Section 303(d) of the CWA are known as “impaired.” According to the California Water Quality Control Monitoring Council, which is part of California Environmental Protection Agency, Natural Resources, there are many areas within Glenn County which are considered Section 303(d) impaired waterbodies. Nine watersheds within Glenn County have Section 303(d) listed impaired waterbodies. The impaired water bodies are located within the Middle Butte Creek, Sacramento River, Colusa Drain, Upper Stony Creek, Middle Stony Creek, Lower Stony Creek, Walker Creek, Black Butte River, and Corbin Creek-Eel River hydrologic areas. These hydrologic areas extend beyond the county boundary so not all impaired water body segments are located within Glenn County. The pollution source is predominantly agricultural and crop related, although mercury, and resource extraction is also a pollution source. There are a few pollution sources that are not currently known.

Storm water runoff may play a role in the water quality impairments described above. Runoff that occurs as overland flow across yards, driveways, and public streets is intercepted by the storm water drainage system and conveyed to local drainages before eventually being routed to the Pacific. This storm water can carry pollutants that can enter the local waterways and result in the types of water quality impairments described above. Common sources of storm water pollution in the County include litter, trash, pet waste, paint residue, organic material (yard waste), fertilizers, pesticides, sediments, construction debris, metals from automobile brake pad dust, air pollutants that settle on the ground or attach to rainwater, cooking grease, illegally dumped motor oil, and other harmful fluids.

Due to future development and infrastructure projects, the overall volume of runoff in Glenn County could be increased compared to existing conditions. If the County’s drainage system is not adequately designed, General Plan buildout could result in localized higher peak flow rates. Localized increases in flow would be significant if increases exceeded system capacity or contributed to bank erosion.

The General Plan sets policies and actions for build-out of the County, but it does not envision or authorize any specific development project. Because of this, the site-specific details of potential future development projects are currently unknown and analysis of potential impacts of such projects is not feasible and would be speculative. However, each future development and

infrastructure project is required to prepare a detailed project specific drainage plan, Water Quality Management Plan, and a Storm Water Pollution Prevention Plan (SWPPP) that will control storm water runoff and erosion, both during and after construction. If the project involves the discharge into surface waters the project proponent will need to acquire a Dewatering permit, NPDES permit, and Waste Discharge permit from the RWQCB and comply with all storm water sewer system (MS4) requirements.

As described above, under the Regulatory Setting, the County is required to implement a range of measures and procedures when reviewing new development and infrastructure projects.

Water Quality Control Plan for the Central Valley Region (Basin Plan). 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 Federal Clean Water Act, 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 the water quality standards.

Sacramento Valley Integrated Regional Water Management Plan. Northern California water suppliers in partnership with local governments, environmental representatives and state and federal agencies continue to refine an "Integrated Regional Water Management Plan for the Sacramento Valley" (Regional Plan). The Regional Plan is designed to protect Northern California water rights and supplies and it will serve as a roadmap for present and future generations to provide water for farms, cities, birds, fish and recreation.

Compliance with existing County construction and stormwater management codes, as outlined above, would reduce these potential impacts related to stormwater quality. In addition, prior to the issuance of grading permits, each site developed under the proposed General Plan would be required to submit a SWPPP and adhere to county grading and runoff regulations prior to approval. Glenn County has developed the General Plan to include additional policies and actions that, when implemented, will further reduce water pollution from construction, new development, and new infrastructure projects, and protect and enhance natural storm drainage and water quality features. The policies and actions identified below include numerous requirements that would reduce the potential for General Plan implementation to result in increased water quality impacts. Actions by the County during the development review process require the review of development projects to identify potential stormwater and drainage impacts and require development to include measures to ensure that off-site runoff is not increased beyond pre-development levels during rain and flood events. In addition, compliance with the Clean Water Act and regulations enforced by the Regional Water Quality Control Board would ensure that construction-related impacts to water quality are minimized and future projects comply with all applicable laws and regulations. Specifically General Plan Policy CSF 3-2 requires all new development projects and other activities that result in land alterations greater than one acre (such as new site grading for ag operations or the installation of orchards) to demonstrate how storm water runoff will be detained or retained on-site and/or conveyed to the nearest drainage facility as part of the development review process. Policy CSF 3-5

calls for developments to avoid excessive grading and disturbance of vegetation and soils, retain native vegetation and trees, and maintain natural drainage patterns to the greatest extent feasible. Additionally, Action COS-6f continues to require implementation of the County's Grading Ordinance to review projects to ensure that BMPs are implemented during construction and site grading activities as well as in project design to reduce pollutant runoff into water bodies.

The General Plan policies and actions listed below include policies aimed to enhance stormwater quality and infiltration as well as actions to review development projects to identify potential stormwater and drainage impacts and require development to include measures to ensure off-site runoff is not increased beyond pre-development levels. Existing regulatory requirements that manage water quality, and implement the Water Quality Control Plan for the Central Valley Region (Basin Plan) include requirements to obtain approval from the RWQCB for NPDES permits, other discharge permits, WQMPs, SWPPPs, and to implement Best Management Practices. These regulatory requirements are intended to ensure that water quality does not degrade to levels that would violate water quality standards. Through implementation of the General Plan policies and actions listed below, compliance with mandatory Federal and State regulations, and compliance with the existing regulations for the RWQCB would ensure that impacts to drainage patterns and water quality would be **less than significant**.

GENERAL PLAN MINIMIZATION MEASURES

CONSERVATION AND OPEN SPACE ELEMENT POLICIES

COS 6-1: Protect floodways and other areas with high groundwater water recharge capability.

COS 6-2: Require discretionary projects, as well as new flood control and stormwater conveyance projects, to integrate best management practices (BMPs) and natural features to the greatest extent feasible, while ensuring that these features adequately convey and control stormwater to protect human health, safety, and welfare while promoting g water quality objectives.

COS 6-3: Protect surface water quality and prioritize the use of natural features such as bioswales, vegetation, retention ponds, and other measures to remove surface water pollutants prior to discharge into surface waters.

COS 6-4: Promote water conservation among all water users.

COS 6-5: Support and promote the use of drought tolerant and regionally native plants in landscaping.

COS 6-6: Monitor groundwater extraction activities and ensure the health of the groundwater basin.

COS 6-7: Support the Colusa and Glenn Groundwater Authority's (CGA) Colusa Subbasin Groundwater Sustainability Plan and groundwater objectives.

COS 6-8: Collaborate with water suppliers and wastewater treatment plant operators to increase the availability of treated or recycled water for agricultural purposes.

COS 6-9: Encourage the development of water conservation programs by water purveyors for both agricultural and urban uses.

UTILITIES AND COMMUNITY SERVICES ELEMENT POLICIES

CSF 3-1: Maintain and improve Glenn County's storm drainage facilities.

CSF 3-2: Require all new development projects and other activities that result in land alterations greater than one acre (such as new site grading for ag operations or the installation of orchards) to demonstrate how storm water runoff will be detained or retained on-site and/or conveyed to the nearest drainage facility as part of the development review process..

CSF 3-3: Require the installation of storm drain and other flood protection/prevention improvements as a condition of all new development approvals.

CSF 3-4: Applicable projects shall incorporate Best Management Practices (BMPs) and Low Impact Development measures (LID) to treat stormwater before discharge from the site.

CSF 3-5: Where feasible, developments should avoid excessive grading and disturbance of vegetation and soils, retain native vegetation and trees, and maintain natural drainage patterns to the greatest extent feasible.

CSF 3-6: In areas planned for new residential development, encourage dual-use detention basins for parks, ball fields, and other appropriate uses.

CSF 3-7: Work with agricultural land owners to improve and remedy practices that have resulted in adverse impacts to adjacent properties and infrastructure. Such practices include site drainage and flood control measures and the use of Best Management Practices (BMPs) to reduce drainage impacts.

CONSERVATION AND OPEN SPACE ELEMENT ACTIONS

Action COS-6a: Adopt a Water Efficient Landscaping Ordinance (or the CA – MWELo) for residential, park, recreational, and commercial uses, based on the State model ordinance as amended to address local concerns. The ordinance should address: residential, commercial, industrial and institutional projects that require a permit, plan check, or design review.

Action COS-6b: Update the County Code to incorporate standards for new development and infrastructure projects to incorporate Low Impact Development (LID) measures into site designs to reduce pollutants from non-point sources, incorporate LID infrastructure, and encourage greater use of permeable paving surfaces.

Action COS-6c: Continue to implement the policies, actions, and Basin Management Objectives (BMOs) contained in the Colusa Subbasin Groundwater Sustainability Plan.

Action COS-6d: Continue to cooperate with and foster regional cooperation with CGA Member Agencies including: County of Colusa, City of Colusa, City of Williams, Colusa County Water District, Glenn-Colusa Irrigation District Princeton-Codora-Glenn Irrigation District and Provident irrigation

3.9 HYDROLOGY AND WATER QUALITY

District, Maxwell Irrigation District and Westside Water District, Reclamation Districts 108 and 479, Colusa Drain Mutual Water Company, Private Pumpers, and other relevant parties involved in groundwater extraction.

Action COS-6e: Continue to review well permit applications for compliance with County Code Title 20 Chapter 80 Water Well Drilling Permits & Standards.

Action COS-6f: Continue to require implementation of the County's Grading Ordinance. Review projects to ensure that BMPs are implemented during construction and site grading activities as well as in project design to reduce pollutant runoff into water bodies.

Action COS-6g: Coordinate with the California Department of Fish and Wildlife to identify adversely impacted aquatic habitat within the County and to develop riparian management guidelines to be implemented by development, recreation, and other projects adjacent to rivers, lakes, reservoirs, and streams.

Action COS-6h: Continue to identify stormwater and drainage facilities in need of repair and address these needs through the Capital Improvement Project list and process. As feasible seek to incorporate BMPs and LID techniques into repairs and upgrades that promote water quality objectives.

UTILITIES AND COMMUNITY SERVICES ELEMENT ACTIONS

Action CSF-3a: Continue to review development projects and other activities that result in grading or land alterations to areas greater than one acre to identify potential stormwater and drainage impacts. Projects should analyze their drainage and stormwater conveyance impacts and either demonstrate that the existing infrastructure can accommodate increased stormwater flows, or make the necessary improvements to mitigate potential impacts.

Action CSF-3b: Identify stormwater drainage infrastructure that is in need of repair and address these needs through the Capital Improvement Projects Fund as feasible.

Action CSF-3c: Continue to implement the requirements established by the State Water Resource Control Board's (SWRCB) National Pollutant Discharge Elimination System (NPDES) General Permit requirements including the requirements to prepare a Stormwater Pollution Prevention Plan (SWPPP) during construction activities and grading projects that disturb more than 1 acre of land area.

Action CSF-3d: Work cooperatively with local, State, and Federal agencies to comply with water quality regulations, reduce pollutants in runoff, and protect and enhance water resources throughout Glenn County.

Impact 3.9-2: General Plan implementation could result in the depletion of groundwater supplies or interfere substantially with groundwater

recharge or conflict with a groundwater management plan (Less than Significant)

As described previously there are seven groundwater basins within Glenn County: the Stonyford Town Area, Funks Creek, Squaw Flat, Stony Gorge Reservoir, Elk Creek Area, Chrome Town Area, and Sacramento Valley Groundwater Basins. Of these, all except the Sacramento Valley Groundwater Basin are small (less than 5 square miles) isolated basins located in the Coast Ranges in the central to western portions of the County. These small basins have not been divided into subbasins. The Stonyford Town Area and Funks Creek Groundwater Basins also extend into Colusa County. The Sacramento Valley Groundwater Basin, in contrast to the smaller basins described above, covers over 5,900 square miles and 10 counties, and has been divided into 18 subbasins. The majority of the county overlies the Sacramento Valley - Colusa Groundwater subbasin. Other prominent subbasins within the county are the Sacramento Valley- Butte subbasin at the southeast corner of the county, Sacramento Valley- Corning at the northern portion of the county. The Sacramento Valley – Butte, Colusa, and Corning basins are subbasins of the Sacramento Valley Groundwater Basin. Other minor basins including Chrome Town Area, Elk Creek, Funks Creek, Squaw Flat, Stony Gorge Reservoir and Stonyford Town Area.

The primary sources of groundwater recharge in the Subbasins are deep percolation – the movement of water from land surface to the aquifer – of precipitation and applied water. Much of the Subbasins are devoted to agriculture; many of the agricultural fields are irrigated with surface water supplies from the Tehama-Colusa Canal, the Glenn-Colusa Canal, and other irrigation water supply systems, which provide Sacramento River water from outside of the subbasin boundaries. Water applied to agricultural lands has a significant contribution to groundwater recharge.

The Sustainable Groundwater Management Act (SGMA) passed in the fall of 2014, establishing a new structure for managing groundwater resources in California. The Department of Water Resources defines groundwater basins and subbasins and assigns a priority designation in relation to SGMA (High, Medium, Low, Very Low). High and Medium priority basins are required to be managed under SGMA by a Groundwater Sustainability Agency (GSA) or the State Water Resources Control Board. GSAs have the opportunity to manage groundwater at the local level by developing and implementing a Groundwater Sustainability Plan by 2022 and ensuring sustainable conditions by 2042 while avoiding six distinct undesirable results. If GSAs are not successful locally, the State Water Resources Control Board will intervene and assume responsibility for basin management. Glenn County has local GSA coverage and is currently compliant with SGMA.

Glenn County was awarded a grant in 2016, as part of the Water Quality, Supply, and Infrastructure Improvement Act of 2014, (Sustainable Groundwater Planning Grant Program), administered by State of California, Department of Water Resources; in the amount of nearly \$250,000 to complete a project supporting Sustainable Groundwater Management Activities. With the grant, Glenn County completed the Data Management and Hydrogeologic Conceptual Model Project (2016-2018) to support sustainable groundwater management activities. This Project includes the compilation of groundwater data, development of a groundwater data management system (DMS), creation of a water budget and hydrogeologic conceptual model (HCM), and ranking and scoring of groundwater-surface water modeling platforms. The data and models produced from this Project will be

incorporated into one or more Sustainable Groundwater Management Act (SGMA) compliant Groundwater Sustainability Plans. The project concluded in July 2018. Glenn County Code: Title 20, Ch 003 (Ordinance #1115 amended by Ordinance #1237) implements the County's Management Plan.

Subsequent development projects under the General Plan, such as residential, commercial, industrial, and roadway projects would result in new impervious surfaces and could reduce rainwater infiltration and groundwater recharge. The amount of new pavement and impervious surfaces, and the extent to which they affect infiltration, depends on the site-specific features and soil types of a given project site. Projects located in developed areas would have less of an impact than projects converting open lands and spaces.

Given that implementation and future buildout of the proposed General Plan would not appreciably add to the volume of impervious surfaces in Glenn County Subbasin Recharge Areas, when compared to the overall size of the regional groundwater basin recharge area, and that there are adequate water supplies (including groundwater) to serve the projected buildout demand of the General Plan (as further detailed in DEIR Chapter 3.15).

The General Plan includes policies that support water conservation, the use of permeable surfaces and coordination with local agencies and water districts when planning for adequate capacity to accommodate future growth. Specifically General Plan Policy COS 6-6 requires the County to monitor groundwater extraction activities and ensure the health of the groundwater basin. Policy COS 6-7 supports the Colusa and Glenn Groundwater Authority's (CGA) Colusa Subbasin Groundwater Sustainability Plan and groundwater objectives. Action COS 6-16 calls on the County to participate in and collaborate with Butte, Colusa and Tehama counties, and other regional groundwater management agencies to support and promote Groundwater Sustainability Plans and implementation strategies for the groundwater basin.

The General Plan and development codes are consistent with local Groundwater Management Plans and promote collaboration and conservation of resources throughout the Planning Area that benefit and promote groundwater resources. Implementation of the following General Plan policies would further ensure that the General Plan would have a **less than significant** impact relative to this topic.

GENERAL PLAN MINIMIZATION MEASURES

CONSERVATION AND OPEN SPACE ELEMENT POLICIES

COS 6-1 Protect floodways and other areas with high groundwater water recharge capability.

COS 6-2 Require discretionary projects, as well as new flood control and stormwater conveyance projects, to integrate best management practices (BMPs) and natural features to the greatest extent feasible, while ensuring that these features adequately convey and control stormwater to protect human health, safety, and welfare while promoting g water quality objectives.

COS 6-3 Protect surface water quality and prioritize the use of natural features such as bioswales, vegetation, retention ponds, and other measures to remove surface water pollutants prior to discharge into surface waters.

COS 6-4 Promote water conservation among all water users.

COS 6-6 Monitor groundwater extraction activities and ensure the health of the groundwater basin.

COS 6-7 Support the Colusa and Glenn Groundwater Authority's (CGA) Colusa Subbasin Groundwater Sustainability Plan and groundwater objectives.

COS 6-8 Collaborate with water suppliers and wastewater treatment plant operators to increase the availability of treated or recycled water for agricultural purposes.

COS 6-9 Encourage the development of water conservation programs by water purveyors for both agricultural and urban uses.'

COS 6-10 Recognize the impacts of gravel extraction on groundwater quantity and quality and encourage extraction methods that preserve and enhance groundwater resources.

COS 6-12 Monitor actions taken at the State and Federal level which impact water resources in order to evaluate the effects of these actions on the county's resources.

COS 6-13 Encourage development of educational programs to increase public awareness of water conservation opportunities and the potential benefits of implementing conservation measures and programs.

COS 6-14 Work with State and Federal agencies to improve local surface and groundwater pollution detection and monitoring.

COS 6-15 Support water development, treatment, and storage projects that are needed to meet existing and future local and regional demand.

COS 6-16 Participate in and collaborate with Butte, Colusa and Tehama counties, and other regional groundwater management agencies to support and promote Groundwater Sustainability Plans and implementation strategies for the groundwater basin.

COS 6-17 Support ongoing regulatory and compliance efforts at the Federal and State level for the protection of water quality.

COS 6-19 Promote the use of surface water resources when available to offset groundwater extraction.

COS 6-20 Encourage efficient uses of water produced within the county and discourage out of county water transfers.

CONSERVATION AND OPEN SPACE ELEMENT ACTIONS

Action COS-6b Update the County Code to incorporate standards for new development and infrastructure projects to incorporate Low Impact Development (LID) measures into site designs to reduce pollutants from non-point sources, incorporate LID infrastructure, and encourage greater use of permeable paving surfaces.

Action COS-6c Continue to implement the policies, actions, and Basin Management Objectives (BMOs) contained in the Colusa Subbasin Groundwater Sustainability Plan.

3.9 HYDROLOGY AND WATER QUALITY

Action COS-6d Continue to cooperate with and foster regional cooperation with CGA Member Agencies including: County of Colusa, City of Colusa, City of Williams, Colusa County Water District, Glenn-Colusa Irrigation District Princeton-Codora-Glenn Irrigation District and Provident irrigation District, Maxwell Irrigation District and Westside Water District, Reclamation Districts 108 and 479, Colusa Drain Mutual Water Company, Private Pumpers, and other relevant parties involved in groundwater extraction.

Action COS-6e Continue to review well permit applications for compliance with County Code Title 20 Chapter 80 Water Well Drilling Permits & Standards.

Impact 3.9-3: General Plan implementation could alter the existing drainage pattern in a manner which would result in substantial erosion, siltation, flooding, impeded flows, or polluted runoff (Less than Significant)

General Plan implementation has the potential to impact the Planning Area's storm drainage system. The potential impacts would be primarily derived from development in what are now underdeveloped and/or underutilized areas, which could affect the existing drainage patterns.

Construction activities are regulated by the NPDES General Construction Storm Water Permit. Compliance with the storm water permit during construction activities requires the preparation of a Storm Water Pollution Prevention Plan (SWPPP) that contains BMPs to control the discharge of pollutants, including sediment, into local surface water drainages. The County is within the jurisdictional boundary of the CVRWQCB. Under the CVRWQCB NPDES permit system, all existing and future municipal and industrial discharges to surface water within the County would be subject to regulation. NPDES permits are required for operators of municipal separate storm sewer systems, construction projects, and industrial facilities. These permits contain limits on the amount of pollutants that can be contained in each facility's discharge.

Construction activities are regulated by the NPDES General Construction Storm Water Permit. Compliance with the storm water permit during construction activities requires the preparation of a Storm Water Pollution Prevention Plan (SWPPP) that contains BMPs to control the discharge of pollutants, including sediment, into local surface water drainages.

In addition to complying with the NPDES programs and CVRWQCB stormwater requirements, the General Plan contains policies and actions to reduce impacts associated with stormwater and drainage including policies to maintain sufficient levels of storm drainage service, improvements to flood control facilities, and other best practices in order to protect the community from flood hazards, and minimize the discharge of materials into the storm drain system that are toxic, or which could obstruct flows. Additionally, the General Plan policies encourage that stormwater be directed towards permeable surfaces, incorporate stormwater capture, and promote BMPs and Low Impact Development measures (LID) to treat stormwater.

Individual future projects allowed under the General Plan would create new impervious surfaces. This may result in an incremental reduction in the amount of natural soil surfaces available for infiltration of rainfall and runoff, potentially generating additional runoff during storm events. In

addition, the increase in impervious surfaces, along with the increase in surface water runoff, could increase the non-point source discharge of pollutants. Anticipated runoff contaminants include sediment, pesticides, oil and grease, nutrients, metals, bacteria, and trash. Contributions of these contaminants to stormwater and non-stormwater runoff would degrade the quality of receiving waters. During the dry season, vehicles and other urban activities release contaminants onto the impervious surfaces, where they can accumulate until the first storm event. During this initial storm event, or first flush, the concentrated pollutants would be transported via runoff to stormwater drainage systems. Contaminated runoff waters could flow into the stormwater drainage systems that discharge into rivers, agricultural ditches, sloughs, and channels, and ultimately could degrade the water quality of any of these water bodies.

The General Plan sets policies and actions, but it does not envision or authorize any specific development project. Because of this, the site-specific details of potential future development projects are currently unknown and analysis of potential impacts of such projects is not feasible and would be speculative. As previously discussed in the Regulatory Setting section of this chapter, future project applicants would be required to obtain permits from the Army Corps of Engineers and the Department of Fish and Wildlife if any work is performed within a waterway.

The County has developed the General Plan to include policies and actions that, when implemented, will reduce flooding from new development, reduce storm water pollution from new development, and protect and enhance natural storm drainage and water quality features, which will in turn reduce water quality impacts. As described previously, existing regulatory requirements including NPDES and Waste Discharge permits from the RWQCB and implementation of BMPs manage quality. Through implementation of the General Plan policies and actions listed below, implementation of the County Code requirements identified above, compliance with mandatory Federal and State regulations, and compliance with the existing CVRWQCB stormwater requirements would ensure that impacts related to increased flooding or water quality impacts associated with increased runoff would be **less than significant**.

GENERAL PLAN MINIMIZATION MEASURES

UTILITIES AND COMMUNITY SERVICES ELEMENT POLICIES

CSF 3-1 Maintain and improve Glenn County's storm drainage facilities.

CSF 3-2 Require all new development projects and other activities that result in land alterations greater than one acre (such as new site grading for ag operations or the installation of orchards) to demonstrate how storm water runoff will be detained or retained on-site and/or conveyed to the nearest drainage facility as part of the development review process..

CSF 3-3 Require the installation of storm drain and other flood protection/prevention improvements as a condition of all new development approvals.

CSF 3-4 Applicable projects shall incorporate Best Management Practices (BMPs) and Low Impact Development measures (LID) to treat stormwater before discharge from the site.

CSF 3-5 Where feasible, developments should avoid excessive grading and disturbance of vegetation and soils, retain native vegetation and trees, and maintain natural drainage patterns to the greatest extent feasible.

CSF 3-6 In areas planned for new residential development, encourage dual-use detention basins for parks, ball fields, and other appropriate uses.

CSF 3-7 Work with agricultural land owners to improve and remedy practices that have resulted in adverse impacts to adjacent properties and infrastructure. Such practices include site drainage and flood control measures and the use of Best Management Practices (BMPs) to reduce drainage impacts.

UTILITIES AND COMMUNITY SERVICES ELEMENT ACTIONS

Action CSF-3a Continue to review development projects and other activities that result in grading or land alterations to areas greater than one acre to identify potential stormwater and drainage impacts. Projects should analyze their drainage and stormwater conveyance impacts and either demonstrate that the existing infrastructure can accommodate increased stormwater flows, or make the necessary improvements to mitigate potential impacts.

Action CSF-3b Identify stormwater drainage infrastructure that is in need of repair and address these needs through the Capital Improvement Projects Fund as feasible.

Action CSF-3c Continue to implement the requirements established by the State Water Resource Control Board's (SWRCB) National Pollutant Discharge Elimination System (NPDES) General Permit requirements including the requirements to prepare a Stormwater Pollution Prevention Plan (SWPPP) during construction activities and grading projects that disturb more than 1 acre of land area.

Action CSF-3d Work cooperatively with local, State, and Federal agencies to comply with water quality regulations, reduce pollutants in runoff, and protect and enhance water resources throughout Glenn County.

CONSERVATION AND OPEN SPACE ELEMENT POLICES AND ACTIONS

COS 6-2 Require discretionary projects, as well as new flood control and stormwater conveyance projects, to integrate best management practices (BMPs) and natural features to the greatest extent feasible, while ensuring that these features adequately convey and control stormwater to protect human health, safety, and welfare while promoting water quality objectives.

Action COS-6h Continue to identify stormwater and drainage facilities in need of repair and address these needs through the Capital Improvement Project list and process. As feasible seek to incorporate BMPs and LID techniques into repairs and upgrades that promote water quality objectives.

SAFETY ELEMENT POLICES

SA 2-1 Support and participate in planning efforts undertaken at the local, regional, State, and Federal levels to improve flood management facilities and dam safety throughout the County.

SA 2-2 Require all new development projects to demonstrate how storm water runoff will be detained or retained on-site, treated, and/or conveyed to the nearest drainage facility as part of the development review process. Project applicants shall demonstrate that project implementation would not result in increases in the peak flow runoff to adjacent lands or drainage facilities that would exceed the design capacity of the drainage facility or result in an increased potential for off-site flooding.

SA 2-3 Ensure that construction activities and new development projects will not result in adverse impacts to existing properties and flood control and drainage structures.

SA 2-4 Unless otherwise mitigated, require new structures to be located outside of the 100-year floodplain. All new development within an identified Flood Hazard Area shall be built according to Federal Emergency Management Agency (FEMA) standards.

SA 2-5 Encourage and accommodate multipurpose flood control projects that incorporate recreation, resource conservation, preservation of natural riparian habitat, and scenic values of drainages, creeks, and detention ponds. Where appropriate and feasible, encourage the use of water detention facilities for use as groundwater recharge facilities.

SA 2-6 Encourage flood control measures that respect natural drainage features, vegetation, and natural waterways, while still providing for adequate flood control and protection.

SA 2-7 Ensure that any development activity that requires a grading permit does not impact adjacent properties, local creeks and storm drainage systems by designing and building the site to drain properly to minimize drainage issues, erosion, and sedimentation.

SA 2-8 Ensure that new development and infrastructure improvements do not compound the potential for flooding.

3.9 HYDROLOGY AND WATER QUALITY

SA 2-9 Ensure that adequate drainage and erosion control measures are provided during construction of all new development.

SA 2-10 Recognize the special status of lands located within the designated floodways adopted by the State Reclamation Board, and maintain designated floodways as open space and limit uses to low intensity uses such as agriculture, passive recreation, preservation of vegetation and wildlife habitat, and scenery; provided such uses do not impede floodwaters or pose a threat to public safety.

SA 2-11 Monitor and participate in efforts by the Central Valley Flood Protection Board (CVFPB) to increase flood safety throughout the region.

SA 2-11 Support and encourage the efforts of public agencies and private landowners to maintain and improve existing flood management facilities and encourage the California Department of Fish and Wildlife (CDFW) to expedite the issuance of permits necessary clean and maintain regulated drainage channels.

SA 2-11 Monitor ongoing efforts by FEMA and the California Department of Water Resources (DWR) to update flood hazard maps within Glenn County.

SA 2-11 Require new development proposals in dam inundation areas to consider risks from failure of these dams.

SAFETY ELEMENT ACTIONS

Action SA-2a As part of the development review process require new development projects to prepare hydraulic and storm drainage studies as necessary to define the net increase in storm water run-off resulting from construction and require mitigation to reduce impacts. Drainage and grading plans shall identify best management practices (BMP) protections and include standards established and recommended by the County that shall be incorporated into development.

Action SA-2b Require property owners and farmers to demonstrate that significant land alterations and site grading will not result in offsite flooding or changes in drainage patterns that would lead to offsite flooding, such as increases in runoff volume or velocity. Grading projects that affect five or more acres shall be required to obtain a land leveling permit from the Department of Public Works.

Action SA-2c Continue to participate in the National Flood Insurance Program (NFIP), and consider future participation in the NFIP Community Rating System (CRS).

Action SA-2d Continue to review projects in flood hazard areas to ensure compliance with the Glenn County Code.

Action SA-2e Periodically review the conditions of bridges, culverts, canals and other flood control and stormwater conveyance infrastructure, and when feasible include necessary improvements within the Capital Improvement Program (CIP) to increase safety and the adequate conveyance of stormwater.

Action SA-2f Periodically Review Glenn County Code, and revise as necessary to ensure that development standards are consistent with the requirements of State and Federal law.

Action SA-2g Coordinate with the local reclamation districts, state and federal agencies to improve levee systems.

Action SA-2h Address emergency evacuation and disaster preparedness in the event of dam failure as part of the emergency response planning efforts identified in Actions SA 1-A and SA 1-B.

Action SA-2i Educate property owners and farms on the potential for changes to property drainage infrastructure and grading to increase localized flooding risks and the impacts this may cause, including damage to county infrastructure and facilities.

Impact 3.9-4: General Plan implementation would not release pollutants due to project inundation by flood hazard, tsunami, or seiche (Less than Significant)

FLOOD

The Planning Area is subject to flooding problems along the natural creeks, drainages, and lakes in the Planning Area. The FEMA FIRM for the Planning Area is shown on Figure 3.9-3. As shown in Figure 3.9-3, the Glenn County contains areas within the 1% annual chance flood hazard zone (100-year flood), the 0.2% annual chance flood hazard zone (500-year flood), regulatory floodway, area of minimal flood hazard, and areas of undetermined flood hazard. The areas located within the 1% and 0.2% annual chance flood hazard zones are primarily concentrated in the east portion of the County along the Sacramento River, while the areas of undetermined flood hazard are located primarily within the mountainous areas in the western portion of the Planning Area. Local drainage systems may also contribute to flood risk, but are not evaluated or mapped by FEMA.

Future flooding trends may also be influenced by changes in the frequency and magnitude of precipitation. Severe storm events are projected to increase, and low-lying areas may experience increased flood risk from riverine and localized flooding due to extreme precipitation events. Due to local drainage patterns combined with the effects of more frequent and severe storm events the County may be more prone to more frequent and severe flood occurrences.

As described previously, the County regulates storm water discharge in accordance with the NPDES permit. In addition to complying with the NPDES programs and stormwater requirements. The County has developed the General Plan to include policies and actions that, when implemented, will reduce flooding, reduce storm water pollution from new development, and protect and enhance natural storm drainage and water quality features, which will in turn reduce water stormwater quality impacts. Through implementation of the General Plan policies and actions listed below, implementation of the County Code requirements identified above, compliance with mandatory Federal and State regulations, and compliance with the existing CVRWQCB stormwater requirements would ensure that impacts related to increased flooding or water quality impacts associated with increased runoff would be **less than significant**.

DAM INUNDATION

In addition, portions of the County may be at risk of inundation from upstream dam failure, with very little warning time. A major dam failure event has not occurred in Glenn County. A catastrophic failure of various dams in the region would have a significant impact on Glenn County. Devastation could occur in and along creeks and rivers to several hundred feet beyond normal reaches. Water levels could be many times higher than those recorded in the worst floods. Figure 3.9-5, shows dam failure inundation areas within the Planning Area that would be subject to inundation in the event of dam failure.

Earthquakes centered close to a dam are typically the most likely cause of dam failure. Dam Inundation maps have been required in California since 1972, following the 1971 San Fernando Earthquake and near failure of the Lower Van Norman Dam. The Planning Area has the potential to be inundated by several dams. According to CalOES, there are six dams in Glenn County. In addition to dams in Glenn County, there are four dams identified outside the county that have the potential to inundate portions of the county in the event of a dam failure and these dams are in Tehama, Colusa, Shasta, and Butte Counties. Each dam is identified in Table 3.9-3.

Of the dams identified above, Black Butte, and Stony Gorge (southeast of Elk Creek) have the greatest potential for causing loss of life and damage to the Glenn County region. Based on inundation zone mapping models of the dams, the dam failure hazard to Glenn County and the City of Willows is low; however, the severity of this hazard in the City of Orland is more severe.

The General Plan contains Policy SA 2-1 that calls for the County to support and participate in planning efforts undertaken at the local, regional, State, and Federal levels to improve flood management facilities and dam safety throughout the County. Additionally Policy SA 2-11 requires new development proposals in dam inundation areas to consider risks from failure of these dams. No specific development are proposed by the General Plan and implementation of the General Plan would result in a **less than significant impact** relative to this topic.

TSUNAMI AND SEICHES

Tsunamis and seiches are standing waves that occur in the ocean or relatively large, enclosed bodies of water that can follow seismic, landslide, and other events from local sources (California, Oregon, Washington coast) or distant sources (Pacific Rim, South American Coast, Alaska/Canadian coast). There are no tsunami inundation areas in the vicinity of the Planning Area.

Seiches are typically caused when strong winds and rapid changes in atmospheric pressure push water from one end of a body of water to the other. In a similar fashion, earthquakes, tsunamis, or severe storm fronts may also cause seiches along large bodies of water. Any body of water may experience limited oscillation during storm events or following seismic events, however oscillation in small bodies of water is generally limited. In smaller water bodies seiches may have the potential to damage or overtop dams. Generally, in lakes the threat of large-scale damage from seiches comes from downstream flooding that would be caused by large volumes of water overtopping a dam or reservoir. Table 3.9-3 shown dams with the potential to impact Glenn County. Generally lakes within the Planning Area are shallow with limited surface areas, and would not generate devastating seiches. The County is not within a tsunami hazard area and would not be subject to substantial impacts from seiche events. Therefore, this is a **less than significant** impact.

GENERAL PLAN MINIMIZATION MEASURES

SAFETY ELEMENT POLICIES

SA 2-1 Support and participate in planning efforts undertaken at the local, regional, State, and Federal levels to improve flood management facilities and dam safety throughout the County.

SA 2-2 Require all new development projects to demonstrate how storm water runoff will be detained or retained on-site, treated, and/or conveyed to the nearest drainage facility as part of the development review process. Project applicants shall demonstrate that project implementation would not result in increases in the peak flow runoff to adjacent lands or drainage facilities that would exceed the design capacity of the drainage facility or result in an increased potential for off-site flooding.

SA 2-3 Ensure that construction activities and new development projects will not result in adverse impacts to existing properties and flood control and drainage structures.

SA 2-4 Unless otherwise mitigated, require new structures to be located outside of the 100-year floodplain. All new development within an identified Flood Hazard Area shall be built according to Federal Emergency Management Agency (FEMA) standards.

SA 2-5 Encourage and accommodate multipurpose flood control projects that incorporate recreation, resource conservation, preservation of natural riparian habitat, and scenic values of drainages, creeks, and detention ponds. Where appropriate and feasible, encourage the use of water detention facilities for use as groundwater recharge facilities.

SA 2-6 Encourage flood control measures that respect natural drainage features, vegetation, and natural waterways, while still providing for adequate flood control and protection.

3.9 HYDROLOGY AND WATER QUALITY

SA 2-7 Ensure that any development activity that requires a grading permit does not impact adjacent properties, local creeks and storm drainage systems by designing and building the site to drain properly to minimize drainage issues, erosion, and sedimentation.

SA 2-8 Ensure that new development and infrastructure improvements do not compound the potential for flooding.

SA 2-9 Ensure that adequate drainage and erosion control measures are provided during construction of all new development.

SA 2-10 Recognize the special status of lands located within the designated floodways adopted by the State Reclamation Board, and maintain designated floodways as open space and limit uses to low intensity uses such as agriculture, passive recreation, preservation of vegetation and wildlife habitat, and scenery; provided such uses do not impede floodwaters or pose a threat to public safety.

SA 2-11 Monitor and participate in efforts by the Central Valley Flood Protection Board (CVFPB) to increase flood safety throughout the region.

SA 2-11 Support and encourage the efforts of public agencies and private landowners to maintain and improve existing flood management facilities and encourage the California Department of Fish and Wildlife (CDFW) to expedite the issuance of permits necessary clean and maintain regulated drainage channels.

SA 2-11 Monitor ongoing efforts by FEMA and the California Department of Water Resources (DWR) to update flood hazard maps within Glenn County.

SA 2-11 Require new development proposals in dam inundation areas to consider risks from failure of these dams.

SAFETY ELEMENT ACTIONS

Action SA-2a As part of the development review process require new development projects to prepare hydraulic and storm drainage studies as necessary to define the net increase in storm water run-off resulting from construction and require mitigation to reduce impacts. Drainage and grading plans shall identify best management practices (BMP) protections and include standards established and recommended by the County that shall be incorporated into development.

Action SA-2b Require property owners and farmers to demonstrate that significant land alterations and site grading will not result in offsite flooding or changes in drainage patterns that would lead to offsite flooding, such as increases in runoff volume or velocity. Grading projects that affect five or more acres shall be required to obtain a land leveling permit from the Department of Public Works.

Action SA-2c Continue to participate in the National Flood Insurance Program (NFIP), and consider future participation in the NFIP Community Rating System (CRS).

Action SA-2d Continue to review projects in flood hazard areas to ensure compliance with the Glenn County Code.

Action SA-2e Periodically review the conditions of bridges, culverts, canals and other flood control and stormwater conveyance infrastructure, and when feasible include necessary improvements

within the Capital Improvement Program (CIP) to increase safety and the adequate conveyance of stormwater.

Action SA-2f Periodically Review Glenn County Code, and revise as necessary to ensure that development standards are consistent with the requirements of State and Federal law.

Action SA-2g Coordinate with the local reclamation districts, state and federal agencies to improve levee systems.

Action SA-2h Address emergency evacuation and disaster preparedness in the event of dam failure as part of the emergency response planning efforts identified in Actions SA 1-A and SA 1-B.

Action SA-2h Educate property owners and farms on the potential for changes to property drainage infrastructure and grading to increase localized flooding risks and the impacts this may cause, including damage to county infrastructure and facilities.

COMMUNITY SERVICES AND FACILITIES ELEMENT POLICIES

CSF 3-1 Maintain and improve Glenn County's storm drainage facilities.

CSF 3-2 Require all new development projects and other activities that result in land alterations greater than one acre (such as new site grading for ag operations or the installation of orchards) to demonstrate how storm water runoff will be detained or retained on-site and/or conveyed to the nearest drainage facility as part of the development review process..

CSF 3-3 Require the installation of storm drain and other flood protection/prevention improvements as a condition of all new development approvals.

CSF 3-4 Applicable projects shall incorporate Best Management Practices (BMPs) and Low Impact Development measures (LID) to treat stormwater before discharge from the site.

CSF 3-5 Where feasible, developments should avoid excessive grading and disturbance of vegetation and soils, retain native vegetation and trees, and maintain natural drainage patterns to the greatest extent feasible.

CSF 3-6 In areas planned for new residential development, encourage dual-use detention basins for parks, ball fields, and other appropriate uses.

CSF 3-7 Work with agricultural land owners to improve and remedy practices that have resulted in adverse impacts to adjacent properties and infrastructure. Such practices include site drainage and flood control measures and the use of Best Management Practices (BMPs) to reduce drainage impacts.

COMMUNITY SERVICES AND FACILITIES ELEMENT ACTIONS

Action CSF-3a Continue to review development projects and other activities that result in grading or land alterations to areas greater than one acre to identify potential stormwater and drainage impacts. Projects should analyze their drainage and stormwater conveyance impacts and either

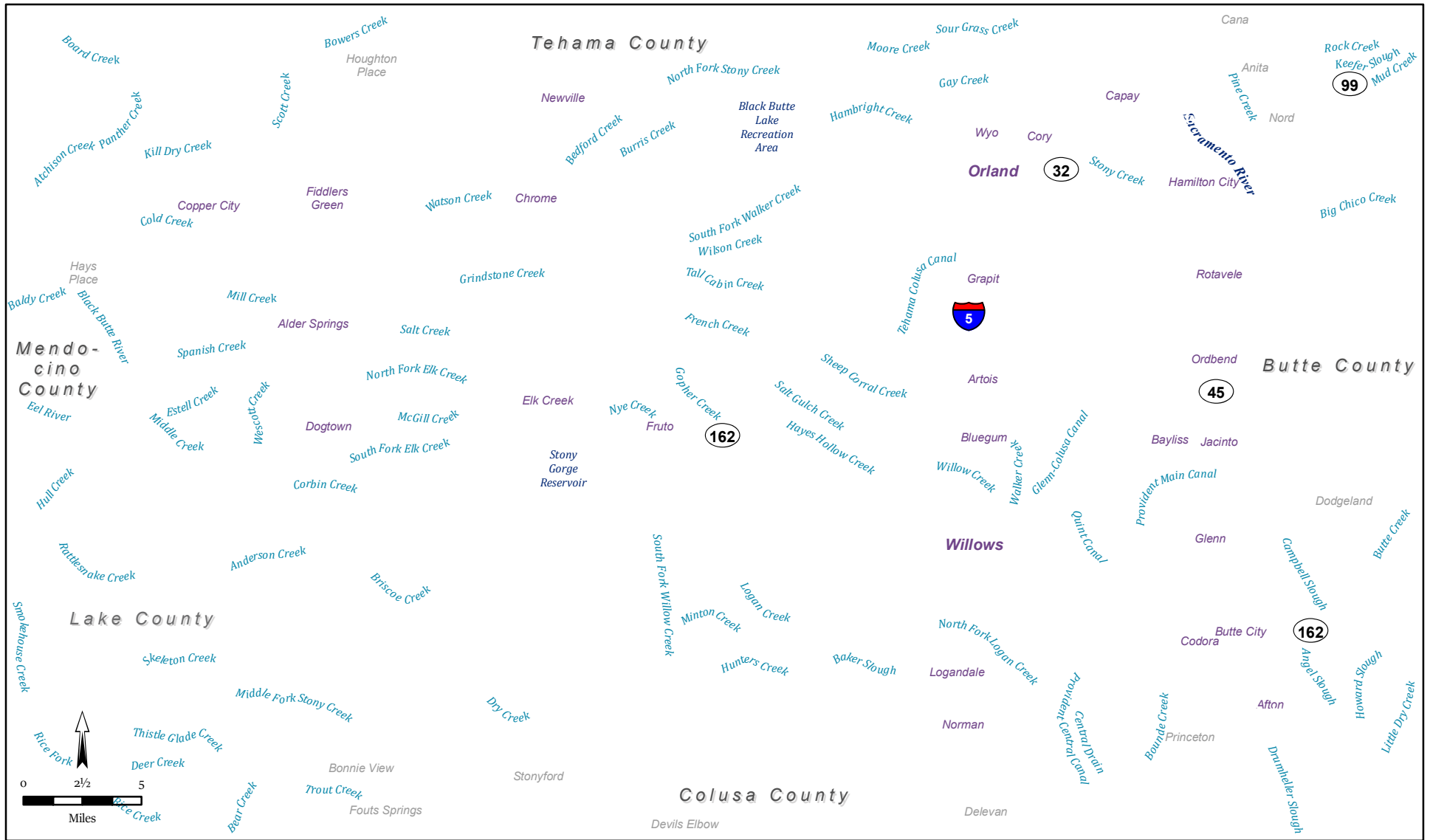
3.9 HYDROLOGY AND WATER QUALITY

demonstrate that the existing infrastructure can accommodate increased stormwater flows, or make the necessary improvements to mitigate potential impacts.

Action CSF-3b Identify stormwater drainage infrastructure that is in need of repair and address these needs through the Capital Improvement Projects Fund as feasible.





















Action CSF-3c Continue to implement the requirements established by the State Water Resource Control Board's (SWRCB) National Pollutant Discharge Elimination System (NPDES) General Permit requirements including the requirements to prepare a Stormwater Pollution Prevention Plan (SWPPP) during construction activities and grading projects that disturb more than 1 acre of land area.

Action CSF-3d Work cooperatively with local, State, and Federal agencies to comply with water quality regulations, reduce pollutants in runoff, and protect and enhance water resources throughout Glenn County.



Sources: USGS Watershed Boundary Dataset; USGS National Hydrography Dataset. Map date: June 26, 2019.

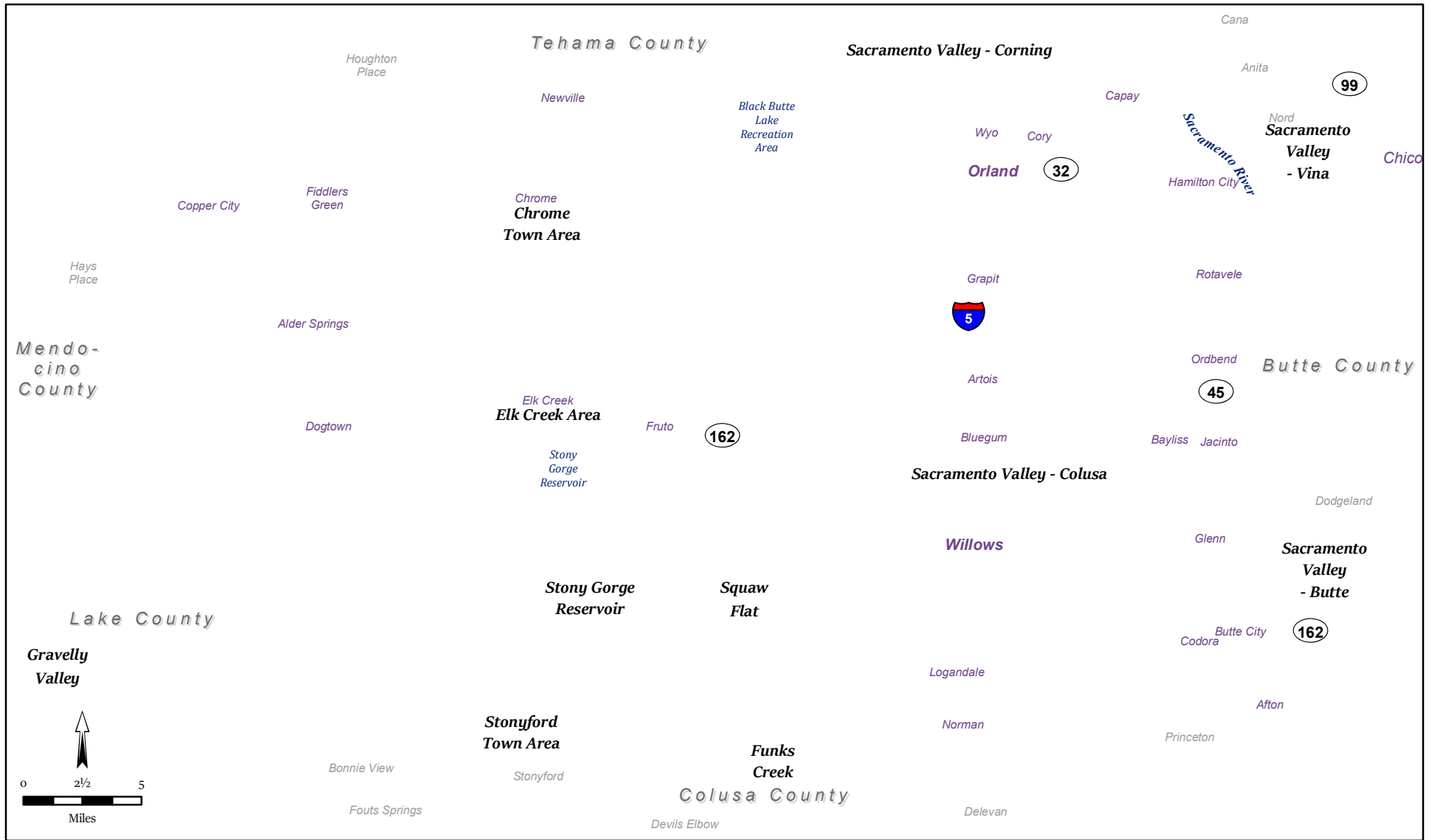
Legend

 Angel Slough	 Little Stony Creek	 Sacramento River
 Black Butte River	 Logan Creek	 South Fork Willow Creek
 Colusa Drain	 Lower Butte Creek	 Stone Corral Creek
 Colusa Trough	 Lower Stony Creek	 Upper Stony Creek
 Corbin Creek-Eel River	 Middle Butte Creek	 Walker Creek
 Grindstone Creek	 Middle Stony Creek	 Willow Creek
 Jewett Creek-Sacramento River	 North Fork Stony Creek	

COUNTY OF GLENN, CALIFORNIA












FIGURE 3.9-1. WATERSHEDS

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Sources: Department of Water Resources (DWR). Map date: June 27, 2019.

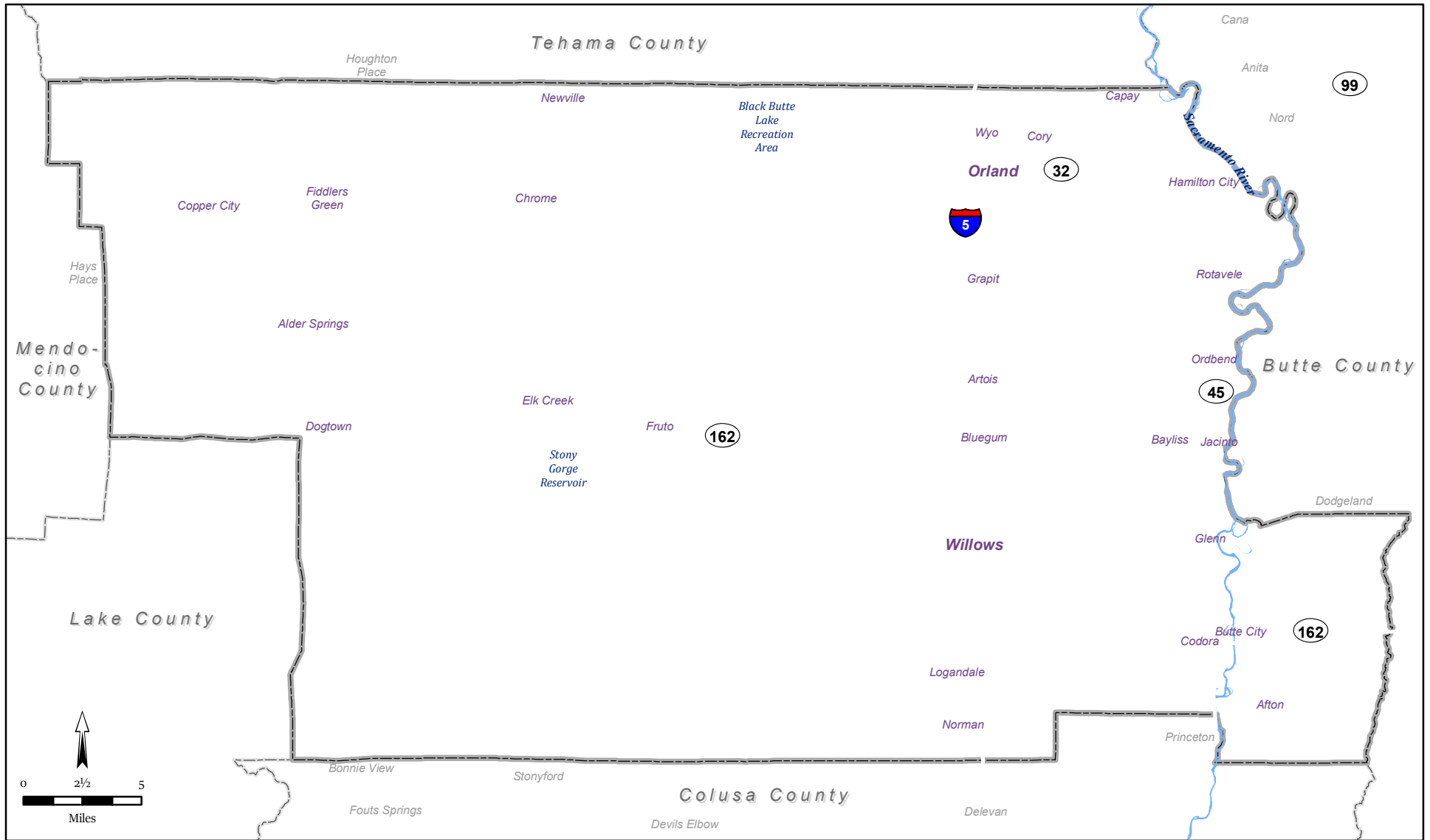
Legend

- | | |
|---|---|
|  Chrome Town Area |  Sacramento Valley - Corning |
|  Elk Creek Area |  Sacramento Valley - Vina |
|  Funks Creek |  Squaw Flat |
|  Gravelly Valley |  Stony Gorge Reservoir |
|  Sacramento Valley - Butte |  Stonyford Town Area |
|  Sacramento Valley - Colusa | |

COUNTY OF GLENN, CALIFORNIA

FIGURE 3.9-2. GROUNDWATER BASINS

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Sources: FEMA Map Service Center, NFHL_06021C, latest study effective data 8/5/2010, latest LOMR effective data 1/11/2011. Map date: July 22, 2019.

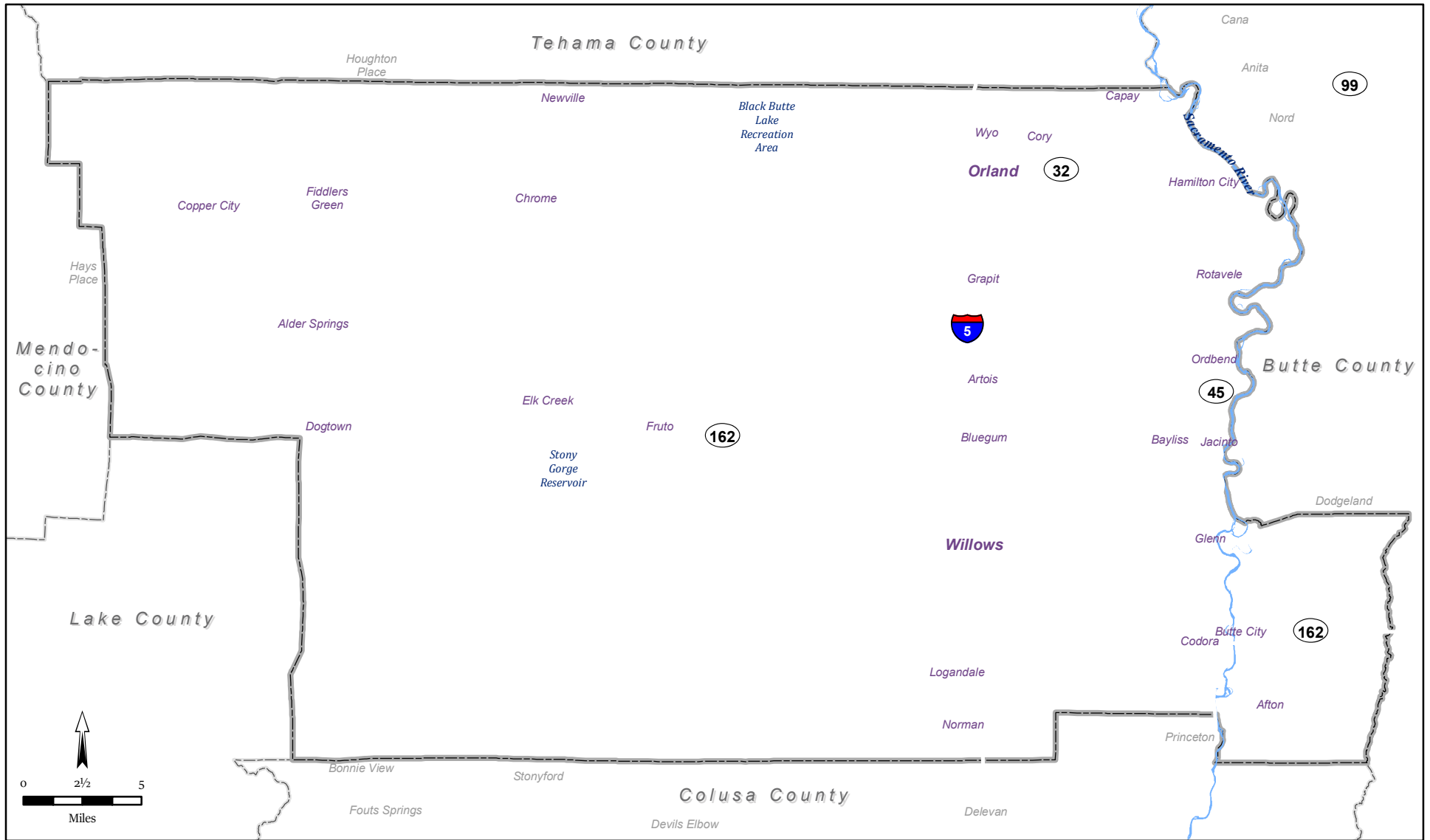
Legend

- 1% Annual Chance Flood Hazard (100-year Flood Zone) - 135,114 acres
- 0.2% Annual Chance Flood Hazard (500-year Flood Zone) - 4,801 acres
- Regulatory Floodway - 283 acres
- Area of Minimal Flood Hazard - 477,898 acres
- Area of Undetermined Flood Hazard - 231,455 acres

COUNTY OF GLENN, CALIFORNIA

FIGURE 3.9-3. FEMA FLOOD ZONE DESIGNATIONS

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Sources: California Department of Water Resources, Best Available Maps (BAM) Map date: July 22, 2019.

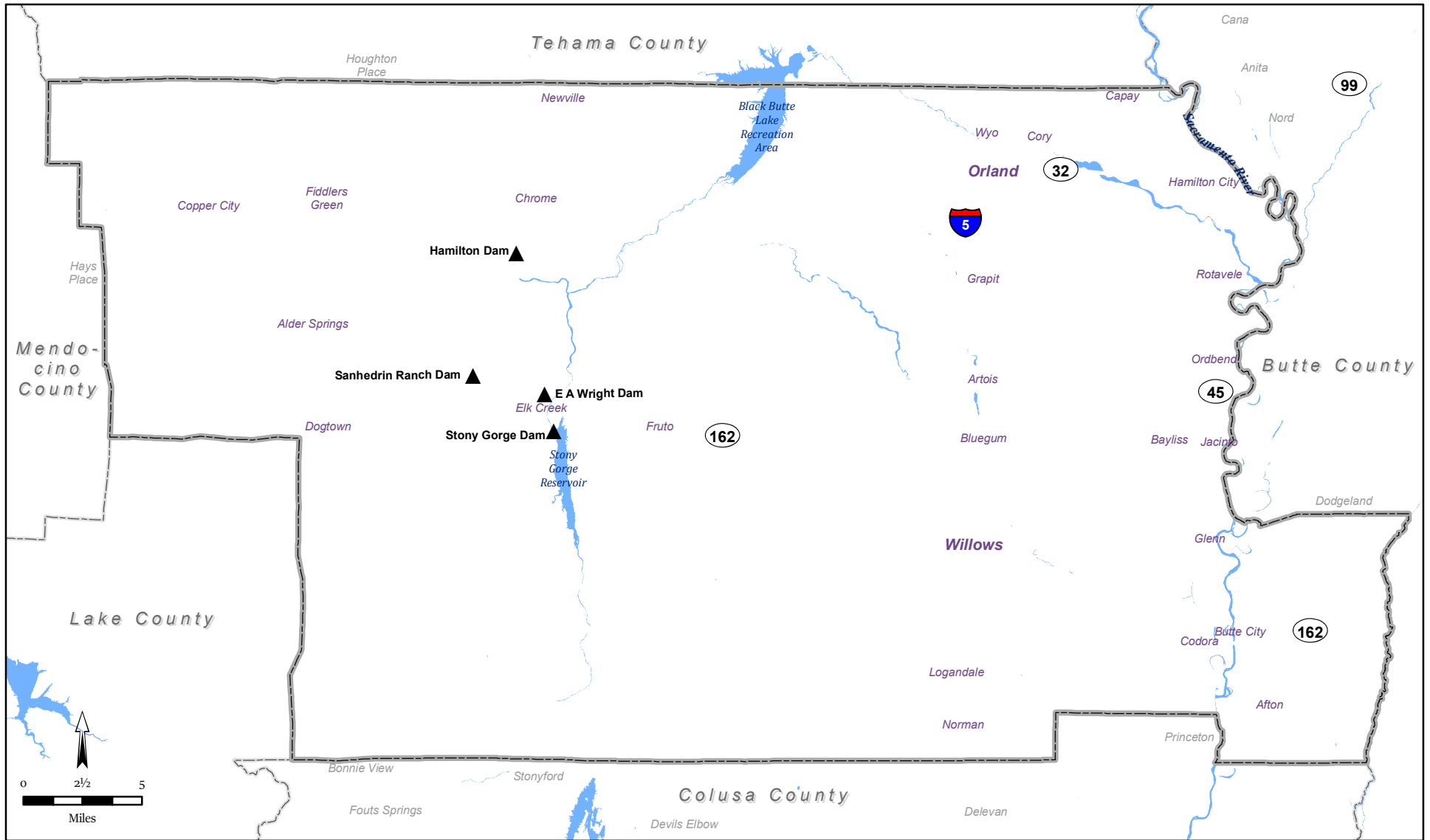
COUNTY OF GLENN, CALIFORNIA

FIGURE 3.9-4. USACE COMPREHENSIVE STUDY
200-YEAR FLOOD PLAIN

Legend

200-Year Floodplain

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Sources: ArcGIS Online Statewide Dam Inundation Areas, accessed 8/30/2019; California Department of Water Resources. Map date: August 31, 2019.

Legend

- Glenn County Boundary
- City Areas - Orland and Willows
- Dam Failure Inundation Areas**
- Black Butte
- Oroville
- Shasta
- Whiskytown
- East Park
- Magalia/Paradise

COUNTY OF GLENN, CALIFORNIA

FIGURE 3.9-5. DAM INUNDATION AREAS

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This section identifies the existing land use conditions, discusses population and housing trends and projections, and analyzes the Project’s consistency with relevant planning documents and policies adopted for the purpose of avoiding or mitigating an environmental effect. General Plan policies associated with other specific environmental topics are discussed in the relevant sections of this EIR.

No comments on this environmental topic were received during the NOP comment period.

3.10.1 ENVIRONMENTAL SETTING

EXISTING CONDITIONS

Land Use Patterns - Unincorporated County

When discussing land use, it is important to distinguish between planned land uses and existing land uses. The General Plan land use designations identify the long-term planned use of land, but may not present a complete picture of existing land uses (what is actually developed and on the ground). The Glenn County Assessor’s office maintains a database of existing (assessed) land uses on individual parcels, including the number of dwelling units and related improvements such as non-residential building square footage. This information is used as the basis for property tax assessments and is summarized in Table 3.10-1 and depicted on Figure 3.10-1.

TABLE 3.10-1: ASSESSED LAND USES – GLENN COUNTY (UNINCORPORATED COUNTY)

ASSESSOR LAND USE CODE*	RESIDENTIAL UNITS	NON-RES SQ FT	ACRES (GIS)	% OF AREA
Commercial	0	1,294,928	2,324.16	0.28%
Industrial	0	267,130	896.81	0.11%
Residential	2,771	0	5,257.88	0.63%
Governmental/Institutional	0	87,011	522.16	0.06%
Agricultural	0	1,276,436	553,602.86	66.13%
Recreational	0	21,673	1,131.43	0.14%
Timber	0	4,188	3,476.92	0.42%
Quarry	0	0	200.95	0.02%
Tax Exempt	0	0	236,955.47	28.31%
ROW/Undefined/No Assessor Match	0	0	32,739.18	3.91%
Total	2,771	2,951,366	837,107.83	100.00%

*NOTE: * ASSESSED USES INCLUDE THE ASSESSORS "PRIMARY" USE CODE CATEGORIES. IN SOME CASES PRIMARY USES MAY DIFFER FROM USE DESCRIPTIONS AND SECONDARY USES IDENTIFIED BY THE ASSESSOR, THEREFORE UNIT COUNTS AND SQUARE FOOTAGES LISTED MAY DIFFER FROM ACTUAL CONDITIONS.*

SOURCE: GLENN COUNTY ASSESSOR’S OFFICE, 2019; DE NOVO PLANNING GROUP, 2019.

Existing assessed uses refer to the existing built environment and site uses, which may be different from the land use or zoning designations applied to land for planning purposes. Existing uses are based on data provided by the County Assessor. As shown in Table 3.10-1 and Figure 3.10-1 the majority of assessed land acreage (66.13 percent) within the unincorporated county is for

3.10 LAND USE PLANNING AND POPULATION/HOUSING

agricultural purposes. The majority of all development indicated in Table 3.10-1 is within or near the Hamilton City, and Artois community areas, or in the areas surrounding the incorporated cities of Willows and Orland.

Existing General Plan Land Use Designations

The General Plan land use designations identify the long-term planned use of land but do not present a complete picture of existing land uses presented previously on Table 3.10-1. The Planning Division of Glenn County maintains a database of existing land uses on individual parcels. Figure 5.0-1 (Existing General Plan Land Use Map) illustrates the County's current General Plan land use designations and their respective distributions throughout the county. Table 3.10-2 summarizes the County's existing General Plan land use designations, by number of parcels and acreage.

TABLE 3.10-2: EXISTING GLENN COUNTY LAND USE DESIGNATIONS – UNINCORPORATED COUNTY

<i>LAND USE</i>	<i>PARCELS</i>	<i>TOTAL PLANNING AREA ACREAGE</i>	<i>PERCENT OF AREA</i>
General Agriculture	805	14,321.36	1.71%
Foothill Agriculture/Forestry	1,253	290,688.56	34.73%
Intensive Agriculture	3,834	304,743.26	36.40%
Agricultural/Residential	21	510.65	0.06%
Rural Residential	767	4,631.38	0.55%
Suburban Residential	811	1,945.95	0.23%
Single Family Residential	1,219	650.03	0.08%
Multiple Family Residential	94	85.12	0.01%
Local Commercial	21	55.77	0.01%
Service Commercial	122	537.09	0.06%
Community Commercial	88	71.29	0.01%
Highway and Visitor Service Commercial	43	728.46	0.09%
Business Park	13	171.46	0.02%
Industrial	177	1,602.86	0.19%
Public Facilities	14	701.61	0.08%
Recreation	525	213,062.28	25.45%
ROW/Canal	233	2,600.70	0.31%
Grand Total	10,040	837,107.83	100.00%

SOURCES: GLENN COUNTY, 2019; GIS LAND USE DATA FILE; DE NOVO PLANNING GROUP, 2019.

Population and Households

As shown in Table 3.10-3, the U.S. Census Bureau and the Department of Finance (DOF) both estimate the total population of Glenn County at around 28,000 people. These sources also agree that the county is currently home to around 10,000 households. Roughly half of the county's population resides in the unincorporated county, while the other half lives in the incorporated cities of Willows and Orland. The available data indicate that the county experienced relatively little population or household growth between 2010 and 2017. The four-county region, by comparison, experienced somewhat modest growth over this period. The statewide population grew much more quickly, indicating that both the County and the region are growing much more slowly than the state

as a whole. Additionally, 2019 DOF estimated 29,132 total population within the county (including incorporated areas) with 14,513 residing within the unincorporated areas of the county.

TABLE 3.10-3 POPULATION AND HOUSEHOLD GROWTH

Population	2013-2017				DOF		
	Decennial Census 2010	2013-2017 ACS	% Change 2010-2017	Avg. Annual Change	2017 DOF	% Change 2010-2017	Avg. Annual Change
Incorporated Cities	13,457	13,587	1.0%	0.1%	13,910	3.4%	0.5%
Unincorporated County	14,665	14,348	-2.2%	-0.3%	14,820	1.1%	0.2%
Countywide	28,122	27,935	-0.7%	-0.1%	28,730	2.2%	0.3%
Four-County Region	333,004	337,868	1.5%	0.2%	341,132	2.4%	0.3%
State of California	37,253,956	38,982,847	4.6%	0.7%	39,500,973	6.0%	0.8%
Households	Decennial Census 2010	2013-2017 ACS	% Change 2010-2017	Avg. Annual Change	2017 DOF	% Change 2010-2017	Avg. Annual Change
Incorporated Cities	4,688	4,638	-1.1%	-0.2%	4,864	3.8%	0.5%
Unincorporated County	5,112	5,298	3.6%	0.5%	5,200	1.7%	0.2%
Countywide	9,800	9,936	1.4%	0.2%	10,064	2.7%	0.4%
Four-County Region	128,241	126,862	-1.1%	-0.2%	132,116	3.0%	0.4%
State of California	12,577,498	12,888,128	2.5%	0.3%	13,053,295	3.8%	0.5%

NOTE: THE FOUR-COUNTY REGION CONSISTS OF BUTTE, COLUSA, GLENN, AND TEHAMA COUNTIES.

SOURCES: DEPARTMENT OF FINANCE (DOF), TABLE E-5, 2018; U.S. CENSUS BUREAU, DECENNIAL CENSUS 2010, P1, P18, P42, ACS 2013-2017 5-YEAR SAMPLING PERIOD, B01003, S1101, B26001; BAE, 2019.

Housing Units

As of January 2022, the State Department of Finance estimates identified 11,020 housing units in Glenn County of which approximately 5,525 are located within the Unincorporated County. Between 2000 and 2010, the countywide housing stock increased approximately 8.0 percent to 10,778 housing units, with an additional 2.25 percent increase from 2010 to 2022.

TABLE 3.10-4 HOUSING UNITS (COUNTYWIDE)

	2000	2010	2022 ESTIMATED BY DOF	2000-2010 CHANGE (%)	2010-2022 CHANGE (%)
Glenn County	9,982	10,778	11,020	7.97%	2.25%

SOURCE: CENSUS 2000, CENSUS 2010, DOF E-5 POPULATION AND HOUSING ESTIMATES FOR CITIES, COUNTIES, AND THE STATE, JANUARY 2022.

Table 3.10-5 show housing units by type within Glenn County estimated by the DOF for 2022. As shown in Table 3.10-5 the County of Glenn has a diverse range of housing, however, the majority of the housing units in the county are single family detached, which account for 71% of housing units.

3.10 LAND USE PLANNING AND POPULATION/HOUSING

The remaining housing types include single family attached (2%), duplexes through fourplexes (7%), multi-family apartments with five or more units (7%), and mobile homes (13%).

TABLE 3.10-5 HOUSING UNITS BY TYPE (2022 DOF EST.)

	TOTAL	SINGLE DETACHED	SINGLE ATTACHED	TWO TO FOUR	FIVE PLUS	MOBILE HOMES	OCCUPIED
Glenn Countywide	11,020	7,746	207	808	799	1,460	10,292
Unincorporated County	5,525	3,950	108	125	86	1,256	5,064

SOURCE: DOF E-5 POPULATION AND HOUSING ESTIMATES FOR CITIES, COUNTIES, AND THE STATE, JANUARY 2022.

Population and Household Trends

As shown in Table 3.10-6, Glenn County has experienced population and household growth since 2000 that is below the statewide average. The County had a population of 29,679 residents and 11,394 households in 2021 (including the incorporated areas of Orland and Willows). These figures represent a 12.2 percent increase in population and a 14.1 percent increase in households since 2000, slightly lower than the rates of growth in the State of California (16.5 percent increase in population; 18.1 percent increase in households). Household growth outpaced population growth in Glenn County during this time, leading to a decline in the average household size from 2.65 in 2000 to 2.60 in 2021. Similarly, the average household size in the state increased during the same period, from 2.77 in 2000 to 2.74 in 2019.

TABLE 3.10-6: POPULATION AND HOUSEHOLD GROWTH, 2000-2019

	2000	2021 ESTIMATED BY DOF	CHANGE	
			NUMBER	PERCENT
Glenn County (county-wide)				
Population	26,453	29,679	3,226	12.2%
Households	9,982	11,394	1,412	14.1%
Average Household Size	2.65	2.60	-	-
California				
Population	33,871,648	39,466,855	5,595,207	16.5%
Households	12,214,549	14,429,960	2,215,411	18.1%
Average Household Size	2.77	2.74	-	-

SOURCES: DOF E-5 POPULATION AND HOUSING ESTIMATES FOR CITIES, COUNTIES, AND THE STATE, JANUARY 2021.

3.10.2 REGULATORY SETTING

FEDERAL

Mendocino National Forest

The Mendocino National Forest Land and Resource Management Plan (LRMP) provides the framework to guide the ongoing land and resource management operations of the Mendocino National Forest. The LRMP's goal is to provide a management program reflecting a mix of activities for the use and protection of the Forest. The LRMP:

- Establishes the management direction and associated long-range goals and objectives for the Forest,
- Specifies the standards, approximate timing, and vicinity of the practices necessary to implement that direction, and
- Establishes the monitoring and evaluation requirements needed to ensure that the direction is being carried out, and to determine if outputs and effects have been reasonably estimated.

The LRMP is a strategic document that provides guidance for, but does not make, project-level decisions. Those decisions are made after more detailed, site-specific environmental analysis and further public comment. The National Forest Management Act (NFMA) requires that resource plans and permits, contracts, and other instruments issued for the use and occupancy of National Forest System lands be consistent with the forest plan. The following are some examples of project decisions that require more detailed environmental analysis:

- Timber harvesting and related activities, such as slash disposal and road construction,
- Range allotment management plans,
- Fish or wildlife habitat improvement projects,
- Watershed improvement projects, and
- Developed recreation sites or trail construction.

The LRMP focuses primarily on management prescriptions for habitat, wilderness, and recreation uses. The LRMP anticipates a steady workforce and does not foresee the need for extensive construction of new facilities for administrative activities and to house the workforce, but rather anticipates that existing facilities will need to be maintained and improved.

The LRMP does not provide much direction regarding private development within the Mendocino National Forest. However, the U.S. Forest Service provides for special use permits for private activities. Special Use Permits may be requested from the U.S. Forest Service for a variety of land uses in national forests, including water transmission, agriculture, timber production, outfitting and guiding, recreation, telecommunication, research, photography and video productions, and granting road and utility rights-of-ways.

Recreation residences are also a federally permitted use in national forests. In 1968, a moratorium was placed on establishing additional residential tracts within forests and the moratorium was expanded in 1976 to also prohibit development of new lots within existing tracts. Existing recreation residences within a national forest are required to obtain a special use permit, which has a maximum term of 20 years. However, there is no guarantee that a new special use permit will be issued at the end of the permit term.

3.10 LAND USE PLANNING AND POPULATION/HOUSING

STATE

California General Plan Law

Government Code Section 65300 requires that each county and city adopt a General Plan “for the physical development of the county or city, and any land outside its boundaries which bears relation to its planning.”

The General Plan will include a comprehensive set of goals, policies, and actions (implementation measures), as well as a revised Land Use Map. It is a comprehensive long-term plan for the physical development of the county or city and is considered a "blueprint" for development. The General Plan must contain seven state-mandated elements: Land Use, Open Space, Conservation, Housing, Circulation, Noise, and Safety. In addition to the state-mandated elements the State provides additional requirements for topical areas for the general plan to address, for example: climate resiliency and adaptation, and environmental justice. The General Plan may also contain any other elements that a county or city wishes to include. The land use element designates the general location and intensity of designated land uses to accommodate housing, business, industry, open space, education, public buildings and grounds, recreation areas, and other land uses.

The 2017 General Plan Guidelines, established by the Governor’s Office of Planning and Research (OPR) to assist local agencies in the preparation of their general plans, further describe the mandatory land use element as a guide to planners, the general public, and decision makers prescribing the ultimate pattern of development for the county or city.

Regional Housing Needs Plan

California General Plan law requires each city and county to have land zoned to accommodate a fair share of the regional housing need. The share is known as the Regional Housing Needs Allocation (RHNA). The determination of the local share of regional housing needs is assigned by the California Department of Housing and Community Development, Division of Housing Policy Development. Regional Housing Needs Allocation numbers are separated into four income categories: very low, low, moderate, and above moderate income levels. Projections have Glenn County (unincorporated) accommodating 229 total new households.

TABLE 3.10-7: REGIONAL HOUSING NEEDS ALLOCATION

<i>INCOME CATEGORY</i>	<i>CITY OF ORLAND</i>	<i>CITY OF WILLOWS</i>	<i>UNINCORPORATED GLENN COUNTY</i>	<i>TOTAL</i>
Very low (31-50% of AMI) *	62	47	75	184
Low (51-80% of AMI)	31	22	30	83
Moderate (81-120% of AMI)	44	36	36	116
Above Moderate (over 120% of AMI)	110	80	88	278
Total	247	185	229	661

NOTES: * (AMI) AREA MEDIAN INCOME

SOURCE: HCD REGIONAL HOUSING NEEDS ALLOCATION PLAN: GLENN COUNTY DECEMBER 31, 2018 – NOVEMBER 30, 2029.

Subdivision Code

A subdivision is any division of land for the purpose of sale, lease or finance. The State of California Subdivision Map Act (Government Code § 66410) regulates subdivisions throughout the state. The goals of the Subdivision Map Act are as follows:

- To encourage orderly community development by providing for the regulation and control of the design and improvement of a subdivision with proper consideration of its relationship to adjoining areas.
- To ensure that areas within the subdivision that are dedicated for public purposes will be properly improved by the subdivider so that they will not become an undue burden on the community.
- To protect the public and individual transferees from fraud and exploitation.

The Map Act allows some flexibility in the processing of subdivisions. Glenn controls this process through the subdivision regulations in the Municipal Code (Title 15 - Unified Development Code) Chapter 15.200 Tentative Parcel Maps, and Chapter 15.210 Final Maps.

LOCAL

Local Agency Formation Commission of Glenn County

In 1963, the State Legislature created a local agency formation commission (LAFCO) for each county, with the authority to regulate local agency boundary changes. Subsequently, the State has expanded the authority of a LAFCO. The goals of the LAFCO include preserving agricultural and open space land resources and providing for efficient delivery of services. The Glenn County LAFCO has authority over land use decisions in Glenn County affecting local agency boundaries. Its authority extends to the incorporated cities, including annexation of County lands into a city, and special districts within the County. LAFCO has the authority to review and approve or disapprove the following:

- Annexations to or detachments from cities or districts.
- Formation or dissolution of districts.
- Incorporation or disincorporation of cities.
- Consolidation or reorganization of cities or districts.
- Establishment of subsidiary districts.
- Development of, and amendments to, Spheres of Influence. The Sphere of Influence (SOI) is the probable physical boundary and service area of each local government agency. This may extend beyond the current service area of the agency.
- Extensions of service beyond an agency's jurisdictional boundaries.

3.10 LAND USE PLANNING AND POPULATION/HOUSING

- Provision of new or different services by districts.
- Proposals that extend service into previously unserved territory in unincorporated areas.

In addition, the Glenn County LAFCO conducts Municipal Service Reviews (MSRs) for services within its jurisdiction. An MSR typically includes a review of existing municipal services provided by a local agency or district and its infrastructure needs and deficiencies. It also evaluates financing constraints and opportunities, management efficiencies, opportunities for rate restructuring and shared facilities, local accountability and governance, and other issues.

Legislation, including Assembly Bill 1555 and Senate Bill 244, has been enacted to encourage the identification and annexation of islands, which are unincorporated areas substantially surrounded by a city or cities.

Airport Land Use Commission Law (Public Utilities Code §21670 et seq.)

The law, passed in 1967, authorized the creation of Airport Land Use Commissions (ALUC) in California. Per the Public Utilities Code, the purpose of an ALUC is to protect *public health, safety, and welfare by encouraging orderly expansion of airports and the adoption of land use measures that minimizes exposure to excessive noise and safety hazards within areas around public airports to the extent that these areas are not already devoted to incompatible uses* (§21670). Furthermore, each ALUC must prepare an Airport Land Use Compatibility Plan (ALUCP). Each ALUCP, which must be based on a twenty-year planning horizon, should focus on broadly defined noise and safety impacts.

The Glenn County Airport Land Use Commission is established according the Chapter 22.10 of the Glenn County Code which was adopted by the Glenn County Board of Supervisors in 1985 (Ordinance No. 830).

The 7 member Glenn County Airport Land Use Commission ensures compatible land uses in vicinity of all airport facilities. The Airport Land Use Commission review plans, regulations, & other actions of local agencies & airport operators.

The Land Use Commission oversees the Orland and Willows Airport Comprehensive Land Use Plans. The overall goal for the Orland and Willows Airport Comprehensive Land Use Plans is to provide for the orderly growth of the Airport facilities and from the areas surrounding the airports, to safeguard the general welfare of the inhabitants within the vicinity of the airport and the public in general.

Glenn County Zoning Ordinance - Unified Development Code

Title 15 of the Unified Development Code includes the County's Zoning Ordinance. The Zoning Ordinance carries out the policies of the General Plan by classifying and regulating the uses of land and structures within the unincorporated County, consistent with the General Plan. The Zoning Ordinance is adopted to protect and promote the public health, safety, comfort, convenience, prosperity, and general welfare of residents and businesses. Specifically, the purposes of this title are:

1. To promote and protect the public health, safety, peace, morals, comfort, convenience and general welfare;
2. To implement the county general plan, and to facilitate and guide growth in accordance with the general plan; and
3. To protect the social and economic stability of residential, commercial, industrial, resource production, and recreational activities within the county through the orderly, planned use of real property.

The Glenn County Regional Transportation Plan

The Regional Transportation Plan serves as the planning blueprint to guide transportation investments in Glenn County involving local, State, and Federal funding over the next 20 years. Regional Transportation Plan guidelines require the RTP to be updated every 5 years. Since the latest Glenn County RTP was developed in 2015, it is being updated to be compliant with new standards set in the adopted 2017 Regional Transportation Plan Guidelines for Regional Transportation Planning Agencies. The overall focus of the 2020 RTP is directed at developing a coordinated and balanced multi-modal regional transportation system that is financially constrained to the revenues anticipated over the life of the plan. The balance is achieved by considering investment and improvements for moving people and goods across all modes including roads, transit, bicycle, pedestrian, trucking, railroad, and aviation.

3.10.3 IMPACTS AND MITIGATION MEASURES

THRESHOLDS OF SIGNIFICANCE

Consistent with Appendix G of the CEQA Guidelines, the proposed project will have a significant impact on land use and population if it will:

- Physically divide an established community;
- Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect;
- Induce substantial unplanned 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); or
- Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere.

IMPACTS AND MITIGATION MEASURES

Impact 3.10-1: General Plan implementation would not physically divide an established community (Less than Significant)

The proposed General Plan establishes the County's vision for future growth and development. Goal LU-2 aims to focus future growth in and around existing communities in order to preserve and enhance the County's agriculture and rural character, and to provide safe, attractive and vibrant community areas

The land uses allowed under the proposed General Plan (Figure 2.0-2) provide opportunities for cohesive new growth near existing developed areas of the County, and would not create physical division within the community. New development and redevelopment projects would be designed to complement the character of the existing community and neighborhoods and provide connectivity between existing development and new development. The proposed General Plan Land Use Map designates sites for a range of developed uses as well as open space and conservation uses. The proposed General Plan does not include any new areas designated for new roadways, infrastructure, or other features that would divide existing communities. The proposed General Plan would have a **less than significant** impact associated with the physical division of an established community.

The policies and actions listed below would ensure that future development is compatible with and well integrated with adjacent communities and land uses. Additional information including policies and actions related to street connectivity can be found in Section 3.14 (Transportation and Circulation) of this DEIR.

GENERAL PLAN POLICIES AND ACTIONS THAT MINIMIZE POTENTIAL IMPACTS

LAND USE ELEMENT POLICIES

LU 2-1: Concentrate future development within or adjacent to the communities that provide urban services, including Willows, Orland, Hamilton City, and Artois, with an emphasis on placing large-

scale and more intense development projects in these population centers as opposed to other rural and remote areas that lack public services and amenities, or are not connected to an existing community.

LU 2-2: Make land use decisions that promote compact communities, generally filling in gaps of vacant and underutilized land between already developed areas before growing outward.

LU 2-4: Prohibit freestanding subdivisions and large-scale commercial developments that are isolated from existing communities, are outside of city and utility district spheres of influence, and/or and lack access to urban-level services.

LU 2-5: To conserve open space and agricultural lands outside of planned urban areas and provide the efficient use of public services, make land use decisions that reinforce the cultural and economic viability of unincorporated community centers of the County, including Hamilton City, Artois, Glenn, Codora, and Ord Bend.

LU 2-6: Use the Urban Reserve Area land use designation to identify lands for future urban use and to delineate the maximum extent of urban growth that can occur around established communities.

LU 2-7: Require development proposals for lands designated Urban Reserve Area to request a General Plan Amendment to the proposed use. The General Plan Amendment shall require the following findings:

- The majority of adjacent designated urban residential and commercial lands has been built out or has received land use entitlements necessary for build out,*
- Urban services (water, wastewater, storm drainage, utilities, and roads) have been extended or planned to be extended to the lands proposed for a General Plan Amendment,*
- Adequate flood control measures are in place,*
- The amendment would not create an island of urban uses in a rural, agricultural, or open space area, and*
- The amendment would not result in leapfrog development patterns.*

LU 2-10: Encourage clustering of residential development when parcels are adjacent to commercial agricultural lands, so as to place dwellings as far as possible from the agricultural land.

LU 2-13: Ensure that the density and intensity of allowed development in established communities and rural areas is consistent with the existing and planned capability of public services and infrastructure.

LU 2-14: Require proposed urban and rural residential development to be consistent with the following:

3.10 LAND USE PLANNING AND POPULATION/HOUSING

Rural Residential

- *The soil is determined to be suitable for septic tank use by the Environmental Health Department*
- *Groundwater is determined to be sufficient to support a well by the Environmental Health Department and Glenn Groundwater Authority*
- *The parcel can be made accessible from a public street*
- *It can be demonstrated that the development is compatible with surrounding uses and will not have a significant, adverse effect on adjoining properties.*
- *The area is accessible for fire protection and can meet fire resistance guidelines if located in a high hazard area.*
- *It can be demonstrated that potable water is available.*

Urban Residential (includes Single Family and Multi Family Residential)

- *The community utility systems, including water, drainage, and sewer, if available, can accommodate the additional demand.*
- *The area has access to a major transportation route and reasonable access to transit service.*
- *The impact of the development on local streets can be mitigated to acceptable levels.*
- *Adequate fire protection measures are provided.*
- *The site adjoins existing urban (residential, commercial, public facility, etc.) development.*
- *The project avoids the repetition of residential facades/designs within subdivisions.*
- *The development is compact, is sensitive to natural resources, public safety, efficiently uses water and energy, maximizes bicycle and pedestrian opportunities, provides multi-modal connections to nearby neighborhoods, bike/pedestrian routes and trails, and provides direct, safe routes to services, schools, and shopping.*

LU 2-15: Require new development projects to connect to existing community utility service systems (such as water, sewer, and natural gas) when such systems are reasonably available to the project site. "Reasonably available" generally means within 1,000 feet of the parcel line. However, the final determination of "Reasonably available" shall be determined by the Director of the Planning and Community Development Services Agency on a case-by-case basis.

LU 2-18: Ensure that rural and semi-rural living opportunities continue to be provided in the communities in the County, as well as in the rural, forested, and remote areas of the County, when feasible and appropriate with the consideration of a range of factors, including environmental impact, safety, access, hazards and the availability of water.

LU 2-17: Encourage urban development within the Spheres of Influence (SOIs) of Willows and Orland to be annexed as part of the project review and approval process. Urban development within the SOIs may remain within the County under the following conditions:

- a. The city will not consent to annex or annexation is not possible under State law;*
- b. Public service demands of the proposed development are within service capabilities of the County and affected special districts; and*
- c. The proposed use and density are consistent with the County's General Plan and compatible with the City's General Plan.*

LU 2-19: Maintain the compatibility of surrounding land uses and development, so as not to impede the existing and planned operation of public airports, landfills and related facilities and community sewage treatment facilities.

LU 2-20: Provide an orderly framework for communication and coordination between the County and the cities of Willows and Orland regarding development, public services and improvements.

LU 2-21: Afford the cities of Orland and Willows the opportunity to review and comment on matters within their adopted Spheres of Influence, and consider their recommendations in rendering land use decisions.

LU 2-22: Work cooperatively and negotiate with each of the cities to achieve mutually beneficial outcomes related to, among other things: planning within spheres of influence; development impact fees for funding of regional parks and amenities, regional roadways and government services that benefit the entire County (including incorporated areas) and "replacement" funding for revenues foregone to protect agriculture and rural character.

LAND USE ELEMENT ACTIONS

Action LU-2a: Provide land use and development proposals for proposed projects that are either located within the sphere of influence or within areas of concern or interest, as designated and adopted by LAFCO for the Cities of Willows or Orland to the appropriate city's Planning Department for review and comment.

Action LU-2b: Actively participate with LAFCO and the relevant cities and agencies in any proposed updates to the spheres of influence of the cities and other public service agencies.

Action LU-2c: Work closely and actively with the cities, public utility districts, fire districts, and other special districts in developing programs for future capital improvements to ensure that such programs accommodate existing and planned growth.

Action LU-2d: Encourage annexation to the incorporated cities of properties within one half mile of the existing city limits of Orland and Willows, such as the land area between Stony Creek and the present city limit line of the City of Orland, prior to development.

3.10 LAND USE PLANNING AND POPULATION/HOUSING

Action LU-2e: Develop and adopt a Specific Plan, or similar comprehensive planning document, to guide future development, facilities, safety, and infrastructure at the Thunderhill Raceway Park, located on Highway 162, west of Willows. The planning document should address the following provisions, at a minimum:

- a. Standards and provisions to motorsports operations, activities, and supporting services and logistics;*
- b. Standards and provisions for supporting commercial uses, include food services, retail, and fuel sales;*
- c. Standards and provisions for limited temporary residential uses, including residential lofts, RV parks, and other overnight accommodations which are not intended for full-time residential occupancy. Exceptions for full-time residential care-taker units may be developed;*
- d. Planning for adequate utilities and services, including parking, water, sewer, drainage, and fire protection; and*
- e. Provisions and safety standards for the use and storage of hazardous materials, including volatile fuels*

Impact 3.10-2: General Plan implementation would not cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect (Less than Significant)

STATE PLANS

The proposed General Plan was prepared in conformance with State laws and regulations associated with the preparation of general plans, including requirements for environmental protection. Discussion of the proposed General Plan's consistency with State regulations, plans, and policies associated with specific environmental issues (e.g., air quality, traffic, water quality, wildfire, wildlife conservation etc.) is provided in the relevant chapters of this Draft EIR. The State would continue to have authority over any State-owned lands in the county and the proposed General Plan would not conflict with continued application of State land use plans, policies, and regulations adopted to avoid or mitigate environmental effects.

COUNTY PLANS

As set forth by State law, the General Plan serves as the primary planning document for the County and subordinate documents and plans would be updated to be consistent with the General Plan. Similar to the existing General Plan, the proposed General Plan focuses on a balanced land use pattern, creating a community where new development blends with existing neighborhoods, and promoting the County as a desirable place to live and work. The proposed General Plan carries forward and enhances policies and measures from the County's existing General Plan that were intended for environmental protection and would not remove or conflict with County plans, policies, or regulations adopted for environmental protection. The proposed General Plan would require modifications to the County's Zoning Ordinance to provide consistency between the General Plan

and zoning; however, these modifications will not remove or adversely modify portions of the Glenn County Code that were adopted to mitigate an environmental effect. Other planning document updates may include updates to the RTP and other long range planning documents as development occurs and is proposed countywide. The general plan includes policies and actions to work with local, state, and federal agencies. For example, Action IM-1a On requires on an annual basis to review implementation of the General Plan as required by State law, review implementation and timing of measures based on this implementation plan, and identify revisions to the General Plan that should be made to address the requirements of State law and emerging trends and conditions. Additionally Action IM-1b required the County review and update the Municipal Code, as well as master plans for land uses, services and infrastructure as necessary to ensure consistency with the General Plan.

Subsequent development and infrastructure projects would be required to be consistent with all applicable policies, standards, and regulations, including those land use plans, policies, and regulations adopted to mitigate environmental effects by the County as well as those adopted by agencies with jurisdiction over components of future development projects. Any potential environmental impact associated with conflicts with land use requirements would be **less than significant**. The policies listed below would ensure that the General Plan does not conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect.

GENERAL PLAN POLICIES AND ACTIONS THAT MINIMIZE POTENTIAL IMPACTS

LAND USE ELEMENT POLICIES

LU 2-17: *Encourage urban development within the Spheres of Influence (SOIs) of Willows and Orland to be annexed as part of the project review and approval process. Urban development within the SOIs may remain within the County under the following conditions:*

- a. *The city will not consent to annex or annexation is not possible under State law;*
- b. *Public service demands of the proposed development are within service capabilities of the County and affected special districts; and*
- c. *The proposed use and density are consistent with the County's General Plan and compatible with the City's General Plan.*

LU 4-7: *Require proposed industrial development to be consistent with the following:*

- a. *The area can be readily hooked up to public sewer and water facilities where these facilities are available, or to private sewer and water facilities where utilities do not yet exist.*
- b. *If the industry uses community utilities, that community systems can accommodate the added demand without additional costs to the existing community.*
- c. *If the project is to be served by groundwater wells, that reliable, scientific data be provided in the project development application that demonstrates that groundwater will be available under all conditions, including drought, that surrounding the wells will not have appreciable*

3.10 LAND USE PLANNING AND POPULATION/HOUSING

adverse effects on the quality and quantity of existing domestic and agricultural water supplies, and that private sewage disposal systems can comply with Environmental Health Department standards.

- d. The project will not significantly contribute to air, water, light, and noise pollution.*
- e. The area has access to a major transportation route.*
- f. The impact of the development on local streets can be mitigated to acceptable levels.*
- g. The area is located within 10 minutes of a fire station or can mitigate fire hazards through additional measures, such as, water storage and pressure systems, building sprinkler systems and/or providing its own fire protection independently.*

LAND USE ELEMENT ACTIONS

Action LU-2e: Develop and adopt a Specific Plan, or similar comprehensive planning document, to guide future development, facilities, safety, and infrastructure at the Thunderhill Raceway Park, located on Highway 162, west of Willows. The planning document should address the following provisions, at a minimum:

- a. Standards and provisions to motorsports operations, activities, and supporting services and logistics;*
- b. Standards and provisions for supporting commercial uses, include food services, retail, and fuel sales;*
- c. Standards and provisions for limited temporary residential uses, including residential lofts, RV parks, and other overnight accommodations which are not intended for full-time residential occupancy. Exceptions for full-time residential care-taker units may be developed;*
- d. Planning for adequate utilities and services, including parking, water, sewer, drainage, and fire protection; and*
- e. Provisions and safety standards for the use and storage of hazardous materials, including volatile fuels*

CONSERVATION AND OPEN SPACE ELEMENT POLICIES

COS 2-3 Work with Native American representatives to identify and appropriately address, through avoidance or mitigation, impacts to Native American cultural resources and sacred sites during the development review process consistent with State and Federal requirements.

COS 3-4 Coordinate with State and Federal agencies, private landowners and preservation and conservation groups in habitat preservation and protection of rare, endangered, threatened and special concern species, to ensure consistency in efforts and to encourage joint planning and development of areas to be preserved.

CONSERVATION AND OPEN SPACE ELEMENT ACTIONS

Action COS-1a Continue to work with local, regional, State, and Federal agencies to ensure that regional open space amenities remain publicly-accessible, wellmaintained, and provide for essential habitat.

Action COS-1b Work with the Local Agency Formation Commission (LAFCO) on issues of mutual concern including the conservation of agricultural land through consistent use of LAFCO policies, particularly those related to conversion of agricultural lands and establishment of adequate buffers between agricultural and nonagricultural uses, and the designation of a reasonable and logical Sphere of Influence (SOI) boundaries for the community areas within the county

Action COS-3a Coordinate with wildlife agencies, the Army Corps of Engineers, and the State Lands Commission during review of development projects, permits and applications.

SAFETY ELEMENT POLICIES

SA 2-1 Support and participate in planning efforts undertaken at the local, regional, State, and Federal levels to improve flood management facilities and dam safety throughout the County.

SAFETY ELEMENT ACTIONS

Action SA-2f Periodically Review Glenn County Code, and revise as necessary to ensure that development standards are consistent with the requirements of State and Federal law.

ADMINISTRATION ELEMENT POLICIES

IM 1-1 Regularly review the General Plan and revise it as necessary to comply with State law and reflect emerging trends and conditions.

IM 1-2 Require the County's Zoning Ordinance, planning documents, master plans, infrastructure projects, and development projects to be consistent with the General Plan and State law.

ADMINISTRATION ELEMENT ACTIONS

Action IM-1a On an annual basis review implementation of the General Plan as required by State law, review implementation and timing of measures based on this implementation plan, and identify revisions to the General Plan that should be made to address the requirements of State law and emerging trends and conditions.

Action IM-1b Review and update the Municipal Code, as well as master plans for land uses, services and infrastructure as necessary to ensure consistency with the General Plan.

Impact 3.10-3: General Plan implementation would not induce substantial unplanned 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) (Less than Significant)

The proposed General Plan accommodates future growth in Glenn County, including new businesses, expansion of existing businesses, and new residential uses. Infrastructure and services may need to be extended to accommodate future growth. As described in Chapter 2.0, buildout of the General Plan could yield a total of up to 6,583 housing units, a population of 17,089 people, 3,482,616 square feet of non-residential building square footage, and 4,949 jobs within the Planning Area. As shown in Table 2.0-3 of Chapter 2.0, this represents development growth over existing conditions of 773 new housing units, 2,172 people, 531,250 square feet of new non-residential building square footage, and 745 jobs.

Depending on growth rates, the actual growth during the life of the General Plan could be lower or higher, but would not be expected to exceed the theoretical buildout described in Chapter 2.0 (Project Description).

Given the historical and current population, housing, and employment trends, growth in the County, as well as the entire state, is inevitable. The primary factors that account for population growth are natural increase and net migration. The average annual birth rate for California is expected to be 20 births per 1,000 population. Additionally, California is expected to attract more than one third of the country's immigrants. Other factors that affect growth include the cost of housing, the location of jobs, the economy, the climate, and transportation. While these factors would likely result in growth in Glenn County during the planning period of the proposed General Plan, growth will continue to occur based primarily on the demand of the housing market and demand for new commercial, industrial, and other non-residential uses. As future development occurs under the proposed General Plan, new roads, infrastructure, and services may be necessary to serve the development, and this infrastructure would accommodate planned growth. The proposed General Plan is intended to accommodate the County's fair share of statewide housing needs, which are allocated based on regional numbers provided by the California Department of Housing and Community Development on a regular basis (every five to eight years).

There are many areas within the Planning Area that are designated for developed land uses which are not already developed. The Land Use Element and Land Use Map identify new growth that is distributed throughout the County, with higher density uses focused around unincorporated community centers. Incorporated cities, and along major transportation corridors.

The proposed General Plan includes policies and actions that mitigate environmental impacts associated with growth, such as air quality, noise, traffic, water supply, and water quality effects. Chapters 3.1 through 3.16 and 4.0 provide a discussion of environmental effects associated with development allowed under the proposed General Plan. Each of these EIR chapters include relevant policies and action items that would mitigate potential environmental impacts associated with growth, to the greatest extent feasible.

With implementation of General Plan policies and actions intended to guide growth to appropriate areas and provide services necessary to accommodate growth, the land uses allowed under the

proposed General Plan, the infrastructure anticipated to accommodate proposed land uses, and the goal and policy framework would not induce growth that would exceed adopted thresholds, beyond those disclosed and analyzed throughout this EIR. Therefore, population and housing growth associated with the proposed General Plan would result a **less than significant** impact, as there are no additional potential environmental impacts, beyond those analyzed and disclosed in this EIR, that would result from growth accommodated by the proposed Project.

Impact 3.10-4: General Plan implementation would not displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere (less than significant)

The Housing Element includes goals policies and actions aimed at maintaining and improving the quality of the existing housing stock and the neighborhoods and discourages the displacement of people and housing.

The majority of developed land in the Planning Area is comprised of residential uses, which are not anticipated to undergo significant land use changes under the Proposed General Plan. The Proposed General Plan focuses infill development opportunities in vacant and underutilized areas in Glenn County, as well as areas currently developed with agricultural uses which may transition to industrial uses in the future. The General Plan Land Use Map was developed to preserve existing neighborhoods throughout the County. Throughout the Planning Area, the Proposed General Plan is projected to increase the overall number of dwelling units and provide housing to serve the diverse needs of the community at various socioeconomic levels. Additionally, the Land Use Element includes policies and actions aimed at preserving housing options, and providing attainable housing opportunities for all residents.

Therefore, impacts of the proposed General Plan on the displacement of people or housing are considered **less than significant**. The policies listed below would further ensure that a range of housing types are provided in the County, and that housing conditions are evaluated as the housing supply ages.

GENERAL PLAN POLICIES AND ACTIONS THAT MINIMIZE POTENTIAL IMPACTS

LAND USE ELEMENT POLICIES

LU 1-4: Provide for a variety of residential options through the Unified Development Code in order to accommodate the housing needs of all segments of the county's population.

LU 3-4: The Land Use Map may be amended from time to time to ensure that there is an adequate supply of industrial, commercial, public service, residential, and other lands to serve the County's economic needs. However, agricultural and open space lands shall not be re-designated or developed for urban or residential uses unless:

- *The proposed use is necessary for the economic, agricultural, and social well-being of the County.*

3.10 LAND USE PLANNING AND POPULATION/HOUSING

- *Residential uses are located away from areas of excessive noise, smoke, or dust, especially in those areas adjoining freeways or industrial uses.*
- *The proposed use will not conflict with existing or anticipated uses in the vicinity.*

ECONOMIC DEVELOPMENT ELEMENT POLICIES

ED 2-7: Support agricultural workforce availability by encouraging production of housing, including housing affordable to the agricultural workforce within the County and the incorporated cities.

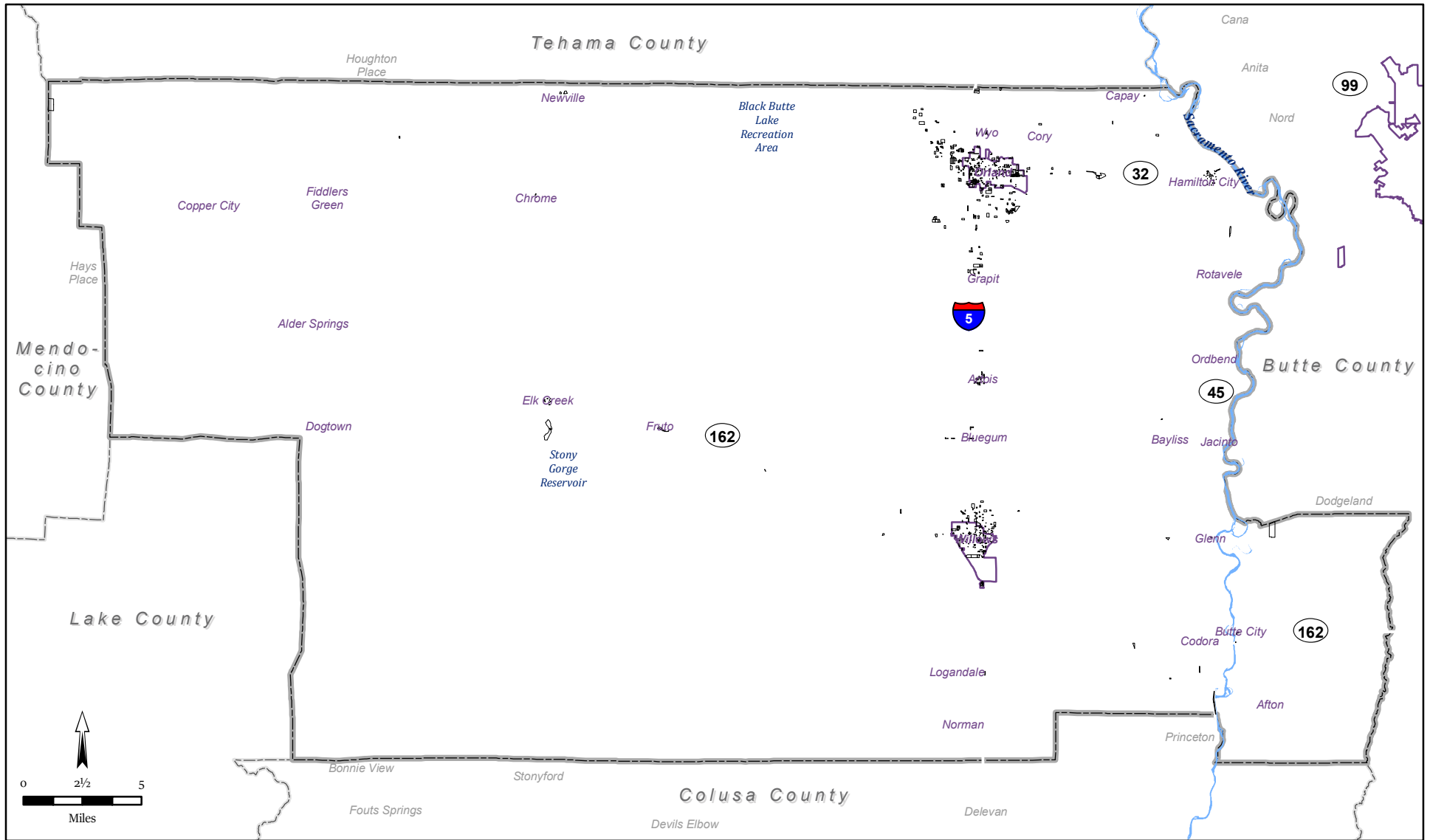
LAND USE ELEMENT ACTIONS

Action LU-1c: Regularly review the General Plan to ensure that its policies and actions still reflect public sentiment about the desired character of communities, that adequate policies are in place to protect the County's important resources, and that adequate land is identified to accommodate high-quality employment-generating uses and associated housing demand.

Action LU-1e: Through the development review and permit process, ensure that residential developments meet the minimum density requirement stipulated on the Land Use Map in order to ensure that Glenn County has an ample number of housing units to meet all of its housing needs.

ECONOMIC DEVELOPMENT ELEMENT ACTIONS

Action ED-2d: Support public and private sector actions to increase the supply, availability, and affordability of housing for the agricultural workforce, as detailed in the General



Sources: Glenn County; CalAtlas. Map date: September 25, 2019.

COUNTY OF GLENN, CALIFORNIA

FIGURE 3.10-1. GLENN COUNTY ASSESSOR MAP

Assessed Land Use

- | | | | | |
|--------------|---------------|--------------|-----------|--------------------|
| Agricultural | Professional | Industrial | Quarry | No Assessor Data |
| Residential | Governmental | Recreational | Undefined | ROW/Canal |
| Commercial | Institutional | Timber | Exempt | Assessed as Vacant |

Planning Areas

- | | |
|-----------------|---|
| County Boundary | Incorporated Areas (Orland and Willows) |
|-----------------|---|

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This section provides a background discussion and analysis of mineral resources in Glenn County. This section is organized with an environmental setting, regulatory setting, and impact analysis.

No comments were received on this environmental topic during the NOP comment period.

3.11.1 ENVIRONMENTAL SETTING

MINERAL RESOURCE CLASSIFICATION

Pursuant to the Surface Mining and Reclamation Act of 1975 (SMARA), the California State Mining and Geology Board oversees the Mineral Resource Zone (MRZ) classification system. The MRZ system characterizes both the location and known/presumed economic value of underlying mineral resources. The mineral resource classification system uses four main MRZs based on the degree of available geologic information, the likelihood of significant mineral resource occurrence, and the known or inferred quantity of significant mineral resources. The four classifications are described in Table 3.11-1 below.

TABLE 3.11-1: MINERAL RESOURCE CLASSIFICATION SYSTEM

<i>CLASSIFICATION</i>	<i>DESCRIPTION</i>
MRZ-1	Areas where adequate information indicates that no significant mineral deposits are present, or where it is judged that little likelihood exists for their presence.
MRZ-2	Areas where adequate information indicates that significant mineral deposits are present, or where it is judged that a high likelihood exists for their presence.
MRZ-3	Areas containing mineral deposits, the significance of which cannot be evaluated.
MRZ-4	Areas where available information is inadequate for assignment to any other MRZ classification.

SOURCE: CALIFORNIA DEPARTMENT OF CONSERVATION DIVISION OF MINES AND GEOLOGY.

MINERAL RESOURCES

Statewide Resources

In 2012, the California Geological Survey identified that approximately 4 billion tons of permitted aggregate reserves lie within the 31 aggregate study areas in California. These permitted aggregate reserves have been determined to be acceptable for commercial use, exist within properties owned or leased by aggregate producing companies, and have permits allowing mining of aggregate material. Sand, gravel, and crushed stones are construction materials that are collectively referred to as construction aggregate. These materials provide the bulk and strength to Portland cement concrete (PCC), asphaltic concrete (AC), plaster, and stucco. Other uses include road base, subbase, railroad ballast, and fill.

From 1981 to 2010, California consumed an average of about 180 million tons of construction aggregate (all grades) per year (CGS, 2012).

Regional Setting

Notable mineral resources in Glenn County include natural gas and construction grade aggregate material. In addition, published reports indicate past attempts to exploit deposits of chromite, molybdenite and copper. Primary areas for gravel extraction occur along Stony Creek and the Sacramento River, although there are other pockets of gravel scattered throughout the county. Several gas fields contribute to a significant quantity of natural gas production in Glenn County. Of these, the Malton-Black Butte field located on the border with Tehama County in eastern Glenn County, and the Willows-Beehive Bend field located in southeastern Glenn County account for nearly 80 percent of total gas production in the county. No oil or geothermal resources have been discovered in the county.

Mining in Glenn County was primarily related to the extraction of strategic minerals during World Wars I and II. The extraction of chrome and manganese essentially ended in the late 1940s with the loss of government demand and subsidies. The primary mineral resources in Glenn County are sand, gravel, and natural gas. In 1997, the California Geological Survey assessed the Glenn County Production-Consumption (P-C) Region mineral resources, with a focus on aggregate resources. Mineral resources in the region are classified based on whether the aggregate meets the specifications for use in PCC. This aggregate is termed “PCC-grade aggregate.” The material quality specifications for PCC-grade aggregate are more restrictive than the specifications for aggregate for other applications. As a result of the strict specifications, PCC-grade aggregate deposits are scarcer and more valuable than other aggregate resources.

To be considered significant for the purpose of mineral land classification, a mineral deposit or group of deposits, must meet criteria adopted by the State Mining and Geology Board. These criteria include marketability and threshold values. The threshold value is approximately \$17.375 million for a construction aggregate deposit. PCC-grade aggregate sells for about \$13 per ton in the Glenn County P-C Region; therefore, \$17,375,000 equates to about 1.3 million tons of PCC-grade aggregate material.

Mineral Extraction Activities

Approximately 22 million tons of PCC-grade aggregate reserves are permitted for production in the County (CGS, 2018).

Local Mineral Resources

Figure 3.11-1: Mineral Resource Zones shows mineral resources within the county. As shown on Figure 3.11-1, the northern central portion of the county consists of a large PCC-grade aggregate deposit situated along Stony Creek, Walker Creek, Black Butte Lake, and Elk Creek, classified as MRZ-2b (high likelihood of significant aggregate deposit). Portions of areas around Elk Creek and Black Butte Lake are designated as MRZ-2a, “significant aggregate deposit.” The majority of the county contains areas that are designated as MRZ-3a, “areas which may contain significant aggregate deposits.” The western portion of the county largely remains unclassified by the Department of Conservation. Table 3.11-2 identifies significant mineral resources classifications within the county.

TABLE 3.11-2: MINERAL RESOURCES WITHIN THE COUNTY

CLASSIFICATION	DESCRIPTIONS
MRZ-2a	Areas containing significant aggregate deposit
MRZ-2b	Areas where a high likelihood of significant aggregate deposits are presence.
MRZ-3a	Areas which may contain significant aggregate deposits, the significance of which cannot be evaluated.

SOURCE: CALIFORNIA DEPARTMENT OF CONSERVATION DIVISION OF MINES AND GEOLOGY, SEPTEMBER 2019

LOCATION OF PERMITTED AGGREGATE MINES

The California Office of Mine Reclamation periodically publishes a list of qualified permitted aggregate mines regulated under SMARA that is generally referred to as the AB 3098 List. The Public Contract Code precludes mining operations that are not on the AB 3098 List from selling sand, gravel, aggregates or other mined materials to State or local agencies. As of March 15, 2022, there are 8 aggregate mines on the AB 3098 list in Glenn County. Table 3.11-3 identifies the active aggregate mines located in the county.

TABLE 3.11-3: AB 3098 LIST – ACTIVE MINES IN GLENN COUNTY

MINE ID	MINE NAME	MINE OPERATOR
91-11-0001	Watts Pit	Glenn County, Department of Public Works
91-11-0002	Kaiser Pit	Glenn County, Department of Public Works
91-11-0003	Stony Creek	Baldwin Contracting Company, Inc.
91-11-0006	Stony Creek	North Valley Rock, LLC.
91-11-0007	Orland Plant	Baldwin Contracting Company, Inc.
91-11-0015	Orland/Hambright	Baldwin Contracting Company, Inc.
91-11-0017	Hunt East Pit	Baldwin Contracting Company, Inc.
91-11-0020	Finch Ranch	North Valley Rock, LLC.

SOURCE: CALIFORNIA DEPARTMENT OF CONSERVATION DIVISION OF MINES AND GEOLOGY, 2022.

3.11.2 REGULATORY SETTING

STATE

Surface Mining and Reclamation Act of 1975

The California Department of Conservation Surface Mining and Reclamation Act of 1975 (§ 2710), also known as SMARA, provides a comprehensive surface mining and reclamation policy that permits the continued mining of minerals, as well as the protection and subsequent beneficial use of the mined and reclaimed land. The purpose of SMARA is to ensure that adverse environmental effects are prevented or minimized and that mined lands are reclaimed to a usable condition and readily adaptable for alternative land uses. The production and conservation of minerals are encouraged, while giving consideration to values relating to recreation, wildlife, range and forage, as well as aesthetic enjoyment. Residual hazards to public health and safety are eliminated. These

3.11 MINERAL RESOURCES

goals are achieved through land use planning by allowing a jurisdiction to balance the economic benefits of resource reclamation with the need to provide other land uses.

If a use is proposed that might threaten the potential recovery of minerals from an area that has been classified mineral resource zone 2 (MRZ-2), SMARA would require the jurisdiction to prepare a statement specifying its reasons for permitting the proposed use, provide public notice of these reasons, and forward a copy of the statement to the State Geologist and the State Mining and Geology Board (Cal. Pub. Res. Code Section 2762). Lands classified MRZ-2 are areas that contain identified mineral resources.

THRESHOLDS OF SIGNIFICANCE

Consistent with Appendix G of the CEQA Guidelines, the proposed project may have a significant impact on the environment associated with mineral resources if it would:

1. Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state; or
2. Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan.

3.11.3 IMPACTS AND MITIGATION MEASURES

Impact 3.11-1: General Plan implementation would not result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state (Less than Significant)

The Planning Area contains areas identified by the State Geologist as containing Regionally Significant Construction Aggregate Resources. Portions of areas around Elk Creek and Black Butte Lake are designated as MRZ-2a, “High likelihood of significant aggregate deposit.” Additionally, areas generally near waterways within the county, and north of Orland are designated as MRZ-2a: “Significant aggregate deposit”. Figure 3.11-1 shows significant identified deposits with the Planning Area.

Given that the known regional mineral resource areas occur within the Planning Area, there is a potential for resource extraction from this MRZ’s. However, new developed uses are proposed generally within community areas and lands with high values resources have not been re-designated to high intensity uses. In some cases limited development may be allowed in the planning area within or near resource deposits. The implications for land use planning in order to preserve local mineral resources and ensure their future availability are basically two-fold: (a) protecting existing and potential sites from development that would preclude mineral extraction, and (b) assuring that access routes are available to large transport vehicles. Proposed land uses available for development are generally within a community areas, but may contain significant aggregate deposits as much of the county is designated as MRZ-3a which “May contain significant aggregate deposit”. There are no known mineral deposits or resources within Planning Area that will directly be impacted, would be limited from an access standpoint, or have been re designated to accommodate developed uses.

The General Plan included policies and actions that support mineral resource conservation and extraction throughout the Planning Area. Specifically, General Plan Policy COS 7-2 call for the conservation of mineral resources identified by the State to be of regional or statewide significance for mineral resource extraction. Additionally The Glenn County General Plan and Land Use Map has been developed to focus development within the existing community areas and promote development to conserve resources throughout the region.

The following General Plan policies, and actions have been included to limit impacts to mineral resources. As such, because implementation of the proposed General Plan would have a **less than significant** impact on this environmental topic. .

GENERAL PLAN POLICIES AND ACTIONS THAT MINIMIZE POTENTIAL IMPACTS

CONSERVATION AND OPEN SPACE ELEMENT POLICIES

COS 7-1 Encourage the extraction and processing of sand and gravel to support economic vitality and ensure an adequate supply of aggregate resources. Ensure that such activities are conducted in an environmentally sensitive manner, comply with all applicable local, State and Federal permits, and do not result in significant adverse impacts to the roadway network (including pavement conditions), surrounding land uses or sensitive natural resources.

COS 7-2 Conserve mineral resources identified by the State to be of regional or statewide significance for mineral resource extraction.

COS 7-3 Support new or expanded mineral resource extraction operations only if they are compatible with surrounding land uses. Manage resources to ensure that extraction results in the fewest environmental impacts while maximizing the use benefits of extracted resources.

COS 7-4 Ensure that mineral extraction activities within the county conform to the State Mining and Reclamation Act (SMARA) requirements, including financial assurances and reclamation plans.

COS 7-5 Support the natural gas industry and extraction within the County while ensuring that its operations are carried out in a safe and environmentally responsible manner.

COS 7-6 Ensure resource and extractive activities and management are carried out consistent with local and State laws and regulations.

CONSERVATION AND OPEN SPACE ELEMENT ACTIONS

Action COS-7a Continue to utilize County Code (Section 15.840.010 Wells, Natural Gas Standards) to address oil and gas wells production standards.

Action COS-7b Continue to identify and maintain mineral resource maps and evaluate areas within the County Planning Area with potential resource value, including oil, gas, sand, and gravel.

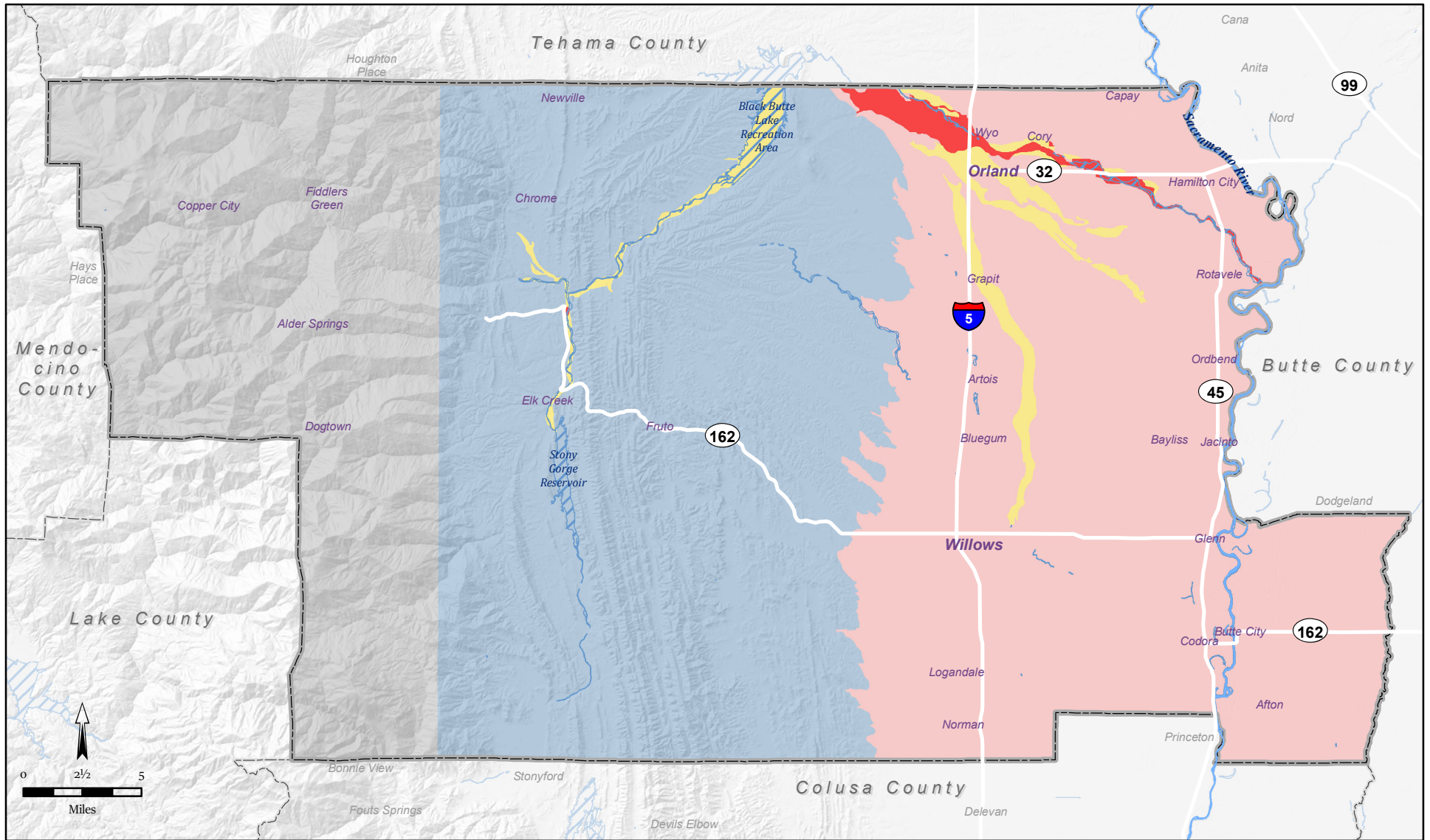
Action COS-7c Continue to require conditional use permits for mineral extraction operations in all zones where mineral extraction may occur.

Impact 3.11-2: General Plan implementation would not result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan (Less than Significant)

The Planning Area does not contain sites designated as a locally important mineral resource recovery site by the County's General Plan. The Glenn County General Plan does identify important mineral resources within its Planning Area. However, Implementation of the proposed General Plan would not result in the loss of a locally important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan. Therefore, this impact is considered **less than significant**.

GENERAL PLAN POLICIES AND ACTIONS THAT MINIMIZE POTENTIAL IMPACTS

See Policies and actions listed under Impact 3.11-1.



Sources: California Department of Conservation, Division of Mines and Geology, Open-File Report 97-02: Mineral Land Classification of Concrete-Grade Aggregate Resources in Glenn County, California, 1997, Plates 1 and 2. Map date: June 27, 2019. Revised December 10, 2019.

COUNTY OF GLENN, CALIFORNIA

FIGURE 5.5-1. MINERAL RESOURCE ZONES

Legend

- MRZ-2a: Significant aggregate deposit
- MRZ-2b: High likelihood of significant aggregate deposit
- MRZ-3a: May contain significant aggregate deposit
- Unclassified
- Unmapped

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This section provides a discussion of the regulatory setting and a general description of existing noise sources in Glenn County. The analysis of potential noise-related impacts in this section was prepared with assistance from Saxelby Acoustics.

No Comments related to this environmental topic were received during the 30-day NOP Public Review Comment Period.

3.12.1 ENVIRONMENTAL SETTING

KEY TERMS

Acoustics	The science of sound.
Ambient Noise	The distinctive acoustical characteristics of a given area consisting of all noise sources audible at that location. In many cases, the term ambient is used to describe an existing or pre-project condition such as the setting in an environmental noise study.
Attenuation	The reduction of noise.
A-Weighting	A frequency-response adjustment of a sound level meter that conditions the output signal to approximate human response.
Decibel or dB	Fundamental unit of sound, defined as ten times the logarithm of the ratio of the sound pressure squared over the reference pressure squared. All dB levels used in this report are A-weighted values, unless otherwise stated.
CNEL	Community Noise Equivalent Level. Defined as the 24-hour average noise level with noise occurring during evening hours (7 - 10 p.m.) weighted by + 5 dB and nighttime hours weighted by +10 dB. Typically, 1 dB higher than Ldn for transportation noise sources.
Frequency	The measure of the rapidity of alterations of a periodic acoustic signal, expressed in cycles per second or Hertz.
Impulsive	Sound of short duration, usually less than one second, with an abrupt onset and rapid decay.
L_{dn}	Day/Night Average Sound Level. Similar to CNEL but with no evening weighting.
L_{eq}	Equivalent or energy-averaged sound level.
L_{max}	The highest root-mean-square (RMS) sound level measured over a given period of time.
L(n)	The sound level exceeded a described percentile over a measurement period. For instance, an hourly L50 is the sound level exceeded 50 percent of the time during the one hour period.
Loudness	A subjective term for the sensation of the magnitude of sound.

Noise	Unwanted sound.
SEL	A rating, in decibels, of a discrete event, such as an aircraft flyover or train passby, that compresses the total sound energy into a one-second event

FUNDAMENTALS OF ACOUSTICS

Acoustics is the science of sound. Sound may be thought of as mechanical energy of a vibrating object transmitted by pressure waves through a medium to human (or animal) ears. If the pressure variations occur frequently enough (at least 20 times per second), then they can be heard and are called sound. The number of pressure variations per second is called the frequency of sound, and is expressed as cycles per second or Hertz (Hz).

Noise is a subjective reaction to different types of sounds. Noise is typically defined as (airborne) sound that is loud, unpleasant, unexpected or undesired, and may therefore be classified as a more specific group of sounds. Perceptions of sound and noise are highly subjective from person to person.

Measuring sound directly in terms of pressure would require a very large and awkward range of numbers. To avoid this, the decibel scale was devised. The decibel scale uses the hearing threshold (20 micropascals), as a point of reference, defined as 0 dB. Other sound pressures are then compared to this reference pressure, and the logarithm is taken to keep the numbers in a practical range. The decibel scale allows a million-fold increase in pressure to be expressed as 120 dB, and changes in levels (dB) correspond closely to human perception of relative loudness.

The perceived loudness of sounds is dependent upon many factors, including sound pressure level and frequency content. However, within the usual range of environmental noise levels, perception of loudness is relatively predictable, and can be approximated by A-weighted sound levels. There is a strong correlation between A-weighted sound levels (expressed as dBA) and the way the human ear perceives sound. For this reason, the A-weighted sound level has become the standard tool of environmental noise assessment. All noise levels reported in this section are in terms of A-weighted levels, but are expressed as dB, unless otherwise noted.

The decibel scale is logarithmic, not linear. In other words, two sound levels 10 dB apart differ in acoustic energy by a factor of 10. When the standard logarithmic decibel is A-weighted, an increase of 10 dBA is generally perceived as a doubling in loudness. For example, a 70 dBA sound is half as loud as an 80 dBA sound, and twice as loud as a 60 dBA sound.

Community noise is commonly described in terms of the ambient noise level, which is defined as the all-encompassing noise level associated with a given environment. A common statistical tool to measure the ambient noise level is the average, or equivalent, sound level (Leq), which corresponds to a steady-state A weighted sound level containing the same total energy as a time varying signal over a given time period (usually one hour). The Leq is the foundation of the composite noise descriptor, Ldn, and shows very good correlation with community response to noise.

The day/night average level (Ldn) is based upon the average noise level over a 24-hour day, with a +10 decibel weighing applied to noise occurring during nighttime (10:00 p.m. to 7:00 a.m.) hours. The nighttime penalty is based upon the assumption that people react to nighttime noise exposures as though they were twice as loud as daytime exposures. Because Ldn represents a 24-hour average, it tends to disguise short-term variations in the noise environment. CNEL is similar to Ldn, but includes a +3 dB penalty for evening noise. Table 3.12-1 lists several examples of the noise levels associated with common situations.

TABLE 3.12-1: TYPICAL NOISE LEVELS

COMMON OUTDOOR ACTIVITIES	NOISE LEVEL (DBA)	COMMON INDOOR ACTIVITIES
	--110--	Rock Band
Jet Fly-over at 300 m (1,000 ft)	--100--	
Gas Lawn Mower at 1 m (3 ft)	--90--	
Diesel Truck at 15 m (50 ft), at 80 km/hr (50 mph)	--80--	Food Blender at 1 m (3 ft) Garbage Disposal at 1 m (3 ft)
Noisy Urban Area, Daytime Gas Lawn Mower, 30 m (100 ft)	--70--	Vacuum Cleaner at 3 m (10 ft)
Commercial Area Heavy Traffic at 90 m (300 ft)	--60--	Normal Speech at 1 m (3 ft)
Quiet Urban Daytime	--50--	Large Business Office Dishwasher in Next Room
Quiet Urban Nighttime	--40--	Theater, Large Conference Room (Background)
Quiet Suburban Nighttime	--30--	Library
Quiet Rural Nighttime	--20--	Bedroom at Night, Concert Hall (Background)
	--10--	Broadcast/Recording Studio
Lowest Threshold of Human Hearing	--0--	Lowest Threshold of Human Hearing

SOURCE: CALTRANS, TECHNICAL NOISE SUPPLEMENT, TRAFFIC NOISE ANALYSIS PROTOCOL. SEPTEMBER 2013.

EFFECTS OF NOISE ON PEOPLE

The effects of noise on people can be placed in three categories:

- Subjective effects of annoyance, nuisance, and dissatisfaction;
- Interference with activities such as speech, sleep, and learning; and
- Physiological effects such as hearing loss or sudden startling.

Environmental noise typically produces effects in the first two categories. Workers in industrial plants can experience noise in the last category. There is no completely satisfactory way to measure the subjective effects of noise or the corresponding reactions of annoyance and dissatisfaction. A wide variation in individual thresholds of annoyance exists and different tolerances to noise tend to develop based on an individual's past experiences with noise.

Thus, an important way of predicting a human reaction to a new noise environment is the way it compares to the existing environment to which one has adapted: the so-called ambient noise level. In general, the more a new noise exceeds the previously existing ambient noise level, the less acceptable the new noise will be judged by those hearing it.

With regard to increases in A-weighted noise level, the following relationships occur:

- Except in carefully controlled laboratory experiments, a change of 1 dBA cannot be perceived;
- Outside of the laboratory, a 3 dBA change is considered a just-perceivable difference;
- A change in level of at least 5 dBA is required before any noticeable change in human response would be expected; and
- A 10 dBA change is subjectively heard as approximately a doubling in loudness, and can cause an adverse response.

Stationary point sources of noise – including stationary mobile sources such as idling vehicles – attenuate (lessen) at a rate of approximately 6 dB per doubling of distance from the source, depending on environmental conditions (i.e. atmospheric conditions and either vegetative or manufactured noise barriers, etc.). Widely distributed noises, such as a large industrial facility spread over many acres, or a street with moving vehicles, would typically attenuate at a lower rate.

EXISTING NOISE LEVELS

Traffic Noise Levels

The FHWA Highway Traffic Noise Prediction Model (FHWA-RD 77-108) was used to develop L_{dn} (24-hour average) noise contours for all highways and major roadways in the Planning Area. The model is based upon the CALVENO noise emission factors for automobiles, medium trucks, and heavy trucks, with consideration given to vehicle volume, speed, roadway configuration, distance to the receiver and the acoustical characteristics of the site. The FHWA Model predicts hourly Leq values for free-flowing traffic conditions, and is generally considered to be accurate within 1.5 dB. To predict Ldn values, it is necessary to determine the hourly distribution of traffic for a typical 24-hour period.

Existing traffic volumes were obtained from the traffic modeling performed for the General Plan study area. Day/night traffic distributions were based upon continuous hourly noise measurement data. Heavy truck counts were also provided by the traffic engineer. Using these data sources and the FHWA traffic noise prediction methodology, traffic noise levels were calculated for existing conditions. Table 3.12-2 shows the results of this analysis.

Traffic noise levels are predicted at the sensitive receptors located at the closest typical setback distance along each project-area roadway segments. In some locations sensitive receptors may be located at distances which vary from the assumed calculation distance and may experience shielding from intervening barriers or sound walls. However, the traffic noise analysis is believed to be representative of the majority of sensitive receptors located closest to the project-area roadway segments analyzed in this report.

The actual distances to noise level contours may vary from the distances predicted by the FHWA model due to roadway curvature, grade, shielding from local topography or structures, elevated roadways, or elevated receivers. The distances reported in Table 3.12-2 are generally considered to be conservative estimates of noise exposure along roadways in Glenn County.

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TABLE 3.12-2: PREDICTED EXISTING TRAFFIC NOISE LEVELS (2019 BASELINE)

ROADWAY	SEGMENT	NOISE LEVEL AT CLOSEST RECEPTORS (DB, L _{DN}) ¹	DISTANCES TO TRAFFIC NOISE CONTOURS, LDN (FEET)		
			60 dB	65 dB	70 dB
Road 200 (Newville)	Road 306 to Tehama Co (Morris and Bryant)	39.0	9	4	2
Road 206	Road 200 (Newville) to Black Butte Lake	37.3	8	4	2
Road D	Road 48 to Road 33	37.9	23	11	5
Road D	Road 57 to Colusa County Line	49.9	16	8	4
Road 200 (Newville)	Road FF (Cedar Ave) to Road G	56.7	58	27	12
SR 162 (Wood Street)	Washington Street to Murdock Avenue	63.2	117	54	25
Road 99W	Orland City Limit to Tehama County Line	61.4	103	48	22
Road 99W	Road 39 to Road 48	43.4	105	49	23
Road 99W (N Tehama)	French Street to SR 162 (Biggs-Willows)	60.7	109	51	24
Road 99W	Road 60 (Riz) to Colusa County Line	51.0	34	16	7
Road 9 (Wyo)	Road 99W to Road K	60.5	53	25	12
Road 39 (Bayliss Blue Gum Road)	Road 99W to Road P	44.0	45	21	10
SR 32 (Walker Street)	Linwood Drive to Road N	72.2	172	80	37
SR 162 (Biggs-Willows)	1st Street to Road O	59.1	75	35	16
Road P	SR 32 to Road 18	59.4	45	21	10
Road P	Road 48 to Willow Creek	51.2	25	12	5
Road 45	Road P to Road S	39.3	16	7	3
Road S	Road 30 to Road 25	49.6	16	8	4
Road S	Road 45 to Road 44	42.6	11	5	2
Road 60	Road P to Road SS	54.7	36	17	8
Road V	State Highway 162 to Road 57	37.7	6	3	1
Road 24	State Highway 45 to Road V V	46.5	26	12	6
SR 32	Sacramento Ave to Gianella Road	64.8	224	104	48
SR 45	SR 24 (St John) to Road 29	56.4	47	22	10
SR 162 (Biggs-Willows)	n/o to Road 52	63.0	61	28	13
SR 162 (Biggs-Willows)	McDougal Street to Road D	66.6	69	32	15

TABLE 3.12-2: PREDICTED EXISTING TRAFFIC NOISE LEVELS (2019 BASELINE)

ROADWAY	SEGMENT	NOISE LEVEL AT CLOSEST RECEPTORS (DB, L _{DN}) ¹	DISTANCES TO TRAFFIC NOISE CONTOURS, LDN (FEET)		
			60 DB	65 DB	70 DB
Road 48	Road Z to Butte County Line	49.7	20	9	4
Road Z	State Highway 162 to Road 48	37.4	21	10	4
Road Z	Road 67 to State Highway 162	50.5	10	5	2
Interstate 5	Countywide	76.3	1337	621	288

NOTES: DISTANCES TO TRAFFIC NOISE CONTOURS ARE MEASURED IN FEET FROM THE CENTERLINES OF THE ROADWAYS.

¹ TRAFFIC NOISE LEVELS ARE PREDICTED AT THE CLOSEST SENSITIVE RECEPTORS

SOURCE: FHWA-RD-77-108 WITH INPUTS FROM FEHR & PEERS TRANSPORTATION CONSULTANTS, CALTRANS, AND SAXELBY ACOUSTICS 2022.

Railroad Noise Levels

Railroad activity in Glenn County occurs along the California Northern Railroad Company (CFNR) line which parallels the Interstate 5 corridor through the communities of Willows, Artois, and Orland. The line extends from the Union Pacific Railroad (UPRR) junction in Davis to the UPRR junction in Tehama. The CFNR line is used to haul lumber, beverage products, food products, steel pipe, agricultural products, and construction materials.

In order to quantify noise exposure from existing train operations, continuous (24-hour) noise level measurement surveys were conducted along the CFNR railroad lines.

The purpose of the noise level measurements was to determine typical sound exposure levels (SEL) for railroad line operations, while accounting for the effects of travel speed, warning horns and other factors which may affect noise generation. In addition, the noise measurement equipment was programmed to identify individual train events so that the typical number of train operations could be determined.

Table 3.12-3 shows a summary of the continuous noise measurement results for railroad activity within the County.

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TABLE 3.12-3: RAILROAD NOISE MEASUREMENT RESULTS

MEASUREMENT LOCATION	RAILROAD TRACK	GRADE CROSSING / WARNING HORN	TRAIN EVENTS PER 24-HOUR PERIOD	DISTANCE TO CL	AVERAGE SEL
LT-3	CFNR	Yes	2	70	103 dBA
LT-6	CFNR	Yes	2	50	107 dBA

SOURCE: SAXELBY ACOUSTICS, 2019.

Noise measurement equipment consisted of Larson Davis Laboratories (LDL) Model 820 precision integrating sound level meters equipped with LDL ½" microphones. The measurement systems were calibrated using a LDL Model CAL200 acoustical calibrator before and after testing. The measurement equipment meets all of the pertinent requirements of the American National Standards Institute (ANSI) for Type 1 (precision) sound level meters.

To determine the distances to the day/night average (L_{dn}) railroad contours, it is necessary to calculate the L_{dn} for typical train operations. This was done using the SEL values and above-described number and distribution of daily train operations. The L_{dn} may be calculated as follows:

$$L_{dn} = SEL + 10 \log N_{eq} - 49.4 \text{ dB, where:}$$

SEL is the mean Sound Exposure Level of the event, N_{eq} is the sum of the number of daytime events (7 a.m. to 10 p.m.) per day, plus 10 times the number of nighttime events (10 p.m. to 7 a.m.) per day, and 49.4 is ten times the logarithm of the number of seconds per day. Based upon the above-described noise level data, number of operations and methods of calculation, the L_{dn} value for railroad line operations have been calculated, and the distances to the L_{dn} noise level contours are shown in Table 3.12-4.

TABLE 3.12-4: APPROXIMATE DISTANCES TO THE RAILROAD NOISE CONTOURS

MEASUREMENT LOCATION	EXTERIOR NOISE LEVEL AT 100 FEET, L_{DN}	DISTANCE TO EXTERIOR NOISE LEVEL CONTOURS, FEET		
		60 DB L_{DN}	65 DB L_{DN}	70 DB L_{DN}
CFNR LINE WITH WARNING HORNS				
LT-3	56 dB	39'	18'	8'
LT-6	54 dB	55'	25'	12'

SOURCE: SAXELBY ACOUSTICS, 2019.

Aviation Noise Levels

Orland Haigh Field Airport and Willows-Glenn County Airport are the two main aviation facilities in the County. Haigh Field Airport is located at 4115 Co Rd P, Orland, CA 95963, southeast of the City of Orland. Willows-Glenn County Airport is located at 353 Co Rd G, Willows, CA 95988, west of Willows. Both airports are owned and operated by Glenn County. The Orland Haigh Field Airport's runway measures 4500 ft. long by 60 ft. wide. The Willows-Glenn County Airport measures 4125 ft. long by 100 ft. wide.

The most recent estimate of annual operations for Orland Haigh Field Airport is approximately 20,000 flights per year. Willows-Glenn County Airport hosts approximately 30,000 flights per year. A major portion of airport operations are a result of agricultural aircraft involved in crop dusting activities.

Noise Impacts and contours associated with the Orland Haigh Field Airport are addressed in the Orland Airport Land Use Plan, adopted by the Glenn County Airport Land Use Commission on February 27, 1991. Noise impacts and contours for Willows-Glenn County Airport are addressed in Willows Airport Land Use Plan, adopted by the Glenn County Airport Land Use Commission on June 30, 1990. Figures 3.12-2 and 3.12-3 show the most recent noise contours developed for the airports.

Fixed Noise Sources

The production of noise is a result of many industrial processes, even when the best available noise control technology is applied. Noise exposures within industrial facilities are controlled by federal and state employee health and safety regulations (OSHA and Cal-OSHA), but exterior noise levels may exceed locally acceptable standards. Commercial, recreational and public service facility activities can also produce noise which affects adjacent sensitive land uses. These noise sources can be continuous and may contain tonal components which have a potential to annoy individuals who live nearby. In addition, noise generation from fixed noise sources may vary based upon climatic conditions, time of day and existing ambient noise levels.

In Glenn County, fixed noise sources typically include parking lots, loading docks, parks, schools, and other commercial/retail use noise sources (HVAC, exhaust fans, etc.)

From a land use planning perspective, fixed-source noise control issues focus upon two goals:

1. To prevent the introduction of new noise-producing uses in noise-sensitive areas, and
2. To prevent encroachment of noise sensitive uses upon existing noise-producing facilities.

The first goal can be achieved by applying noise level performance standards to proposed new noise-producing uses. The second goal can be met by requiring that new noise-sensitive uses in near proximity to noise-producing facilities include mitigation measures that would ensure compliance with noise performance standards.

Fixed noise sources which are typically of concern include but are not limited to the following:

- HVAC Systems
- Pump Stations
- Steam Valves
- Generators
- Air Compressors
- Conveyor Systems
- Cooling Towers/Evaporative Condensers
- Lift Stations
- Steam Turbines
- Fans
- Heavy Equipment
- Transformers

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- Pile Drivers
- Drill Rigs
- Welders
- Outdoor Speakers
- Chippers
- Loading Docks
- Grinders
- Gas or Diesel Motors
- Cutting Equipment
- Blowers
- Cutting Equipment
- Amplified music and voice

The types of uses which may typically produce the noise sources described above, include, but are not limited to: wood processing facilities, pump stations, industrial/agricultural facilities, trucking operations, tire shops, auto maintenance shops, metal fabricating shops, shopping centers, drive-up windows, car washes, loading docks, public works projects, batch plants, bottling and canning plants, recycling centers, electric generating stations, race tracks, landfills, sand and gravel operations, special events such as concerts, and athletic fields. Typical noise levels associated with various types of stationary noise sources are shown in Table 3.12-5.

TABLE 3.12-5: TYPICAL STATIONARY SOURCE NOISE LEVELS

USE	NOISE LEVEL AT 100 FEET, L_{EQ}^1	DISTANCE TO NOISE CONTOURS, FEET			
		50 DB L_{EQ} (NO SHIELDING)	45 DB L_{EQ} (NO SHIELDING)	50 DB L_{EQ} (WITH 5 DB SHIELDING)	45 DB L_{EQ} (WITH 5 DB SHIELDING)
Auto Body Shop	56 dB	200	355	112	200
Auto Repair (Light)	53 dB	141	251	79	141
Busy Parking Lot	54 dB	158	281	89	158
Cabinet Shop	62 dB	398	708	224	398
Car Wash	63 dB	446	792	251	446
Cooling Tower	69 dB	889	1,581	500	889
Loading Dock	66 dB	596	1,059	335	596
Lumber Yard	68 dB	794	1,413	447	794
Maintenance Yard	68 dB	794	1,413	447	794
Outdoor Music Venue	90 dB	10,000	17,783	5,623	10,000
Paint Booth Exhaust	61 dB	355	631	200	355
Skate Park	60 dB	316	562	178	316
School Playground / Neighborhood Park	54 dB	158	281	89	158
Truck Circulation	48 dB	84	149	47	84
Vendor Deliveries	58 dB	251	446	141	251

¹ Analysis assumes a source-receiver distance of approximately 100 feet, no shielding, and flat topography. Actual noise levels will vary depending on site conditions and intensity of the use. This information is intended as a general rule only, and is not suitable for final site-specific noise studies.

Source: Saxelby Acoustics 2022.

Community Noise Survey

A community noise survey was conducted to document ambient noise levels at various locations throughout the County. Short-term noise measurements were conducted at thirteen locations throughout the County on July 17-19, 2019. In addition, seven continuous 24-hour noise monitoring sites were also conducted to record day-night statistical noise level trends. The data collected included the hourly average (L_{eq}), median (L_{50}), and the maximum level (L_{max}) during the measurement period. Noise monitoring sites and the measured noise levels at each site are summarized in Table 3.12-6 and Table 3.12-7. Figure 3.12-1 shows the locations of the noise monitoring sites. Detailed results of noise monitoring can be found in Appendix C.

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TABLE 3.12-6: EXISTING CONTINUOUS 24-HOUR AMBIENT NOISE MONITORING RESULTS

SITE	LOCATION	L _{DN} (DBA)	MEASURED HOURLY NOISE LEVELS, DBA LOW-HIGH (AVERAGE)					
			DAYTIME (7:00 AM - 10:00 PM)			NIGHTTIME (10:00 PM - 7:00 AM)		
			L _{EQ}	L ₅₀	L _{MAX}	L _{EQ}	L ₅₀	L _{MAX}
LT-1	Road 200 – Northern Glenn County	65	62	50	84	58	50	79
LT-2	Road 32 – Northern Glenn County	75	72	67	87	68	48	85
LT-3	Artois Feed – Intersection of California 33 and I-5	66	67	52	82	53	47	70
LT-4	Highway 162 – Biggs Willows Rd.	72	69	52	86	65	47	84
LT-5	South Humboldt Ave. at I-5	71	68	64	82	64	58	80
LT-6	Willows - Railroad	65	66	52	79	52	42	67
LT-7	Highway 162 – Southern Glenn County	64	61	47	78	57	46	76

SOURCE: SAXELBY ACOUSTICS, 2019.

TABLE 3.12-7: EXISTING SHORT-TERM COMMUNITY NOISE MONITORING RESULTS

SITE	LOCATION	TIME ¹	MEASURED SOUND LEVEL, DB			NOTES
			L _{EQ}	L ₅₀	L _{MAX}	
ST-1	Elk Creek High School	12:39 p.m.	50	42	68	Primary noise source is traffic on Sanhedrin Blvd. Secondary noise source includes HVAC noise from Elk Creek High School. Lmax caused by passing autos.
ST-2	Thunderhill Raceway Park	1:15 p.m.	63	39	80	Primary noise source is traffic on Highway 162. Secondary noise source is activity from Thunderhill Raceway Park. Lmax caused by passing heavy trucks.
ST-3	Road HH / Road 7	3:21 p.m.	61	58	76	Primary noise source is traffic on Interstate 5. Secondary noise source is traffic traveling south on Road HH turning left onto Road 7. Lmax caused by passing autos.
ST-4	Road 12 / Road 200	3:03 p.m.	67	57	81	Primary noise source is traffic on Road 200. Secondary noise source is activity from residents in adjacent

SITE	LOCATION	TIME ¹	MEASURED SOUND LEVEL, DB			NOTES
			L _{EQ}	L ₅₀	L _{MAX}	
						neighborhood to the south. Lmax caused by passing autos.
ST-5	Road 19 / Road 200	12:04 p.m.	62	38	80	Primary noise source is traffic on Road 200. Lmax caused by passing heavy trucks.
ST-6	Road 23 Near I-5	11:41 a.m.	66	64	73	Primary noise source is traffic on I-5. Lmax caused by passing heavy trucks.
ST-7	Park Avenue	12:32 p.m.	44	40	55	Primary noise source is traffic on Sacramento Ave. Secondary noise sources include activity from neighbors. Lmax caused by passing autos.
ST-8	East Glenn County on Hwy 162	11:15 a.m.	64	47	79	Primary noise source is traffic on Hwy 162. Secondary noise source is crop duster spraying nearby fields. Lmax caused by passing heavy trucks.
ST-9	Southeast Glenn County on Hwy 45	10:47 a.m.	71	49	87	Primary noise source is traffic on Hwy 45. Lmax caused by passing heavy trucks.
ST-10	Southeast Glenn County - Road 60	10:23 a.m.	65	37	82	Primary noise source is traffic on Road 60. Lmax caused by passing heavy trucks.
ST-11	Glennwood Lane / Pacific Avenue	2:14 p.m.	56	42	39	Primary noise source is traffic on Pacific Avenue. Secondary noise sources include activity from neighbors. Lmax caused by passing autos.
ST-12	Willows High School	9:39 a.m.	58	56	68	Primary noise source is traffic on West Wood Street. Secondary noise sources include activity from neighbors. Lmax caused by passing autos.
ST-13	Sycamore Park	2:51 p.m.	48	44	64	Primary noise source is traffic on South Culver Street. Secondary noise sources include activity from park-goers. Lmax caused by passing autos.
ST-14	Jensen Park	3:10 p.m.	52	46	70	Primary noise source is traffic on Elm Street. Secondary noise sources include activity from park-goers. Lmax caused by passing autos.
ST-15	East Willows	9:58 a.m.	45	43	56	Primary noise source is auto traffic on Sierra St. Secondary noise sources include local wildlife and distant train horn. Lmax caused by passing autos.

1 - ALL COMMUNITY NOISE MEASUREMENT SITES HAVE TEST DURATIONS OF 10:00 MINUTES.
SOURCE: SAXELBY ACOUSTICS, 2019.

Community noise monitoring equipment included Larson Davis Laboratories (LDL) Model 812, 820, and 831 precision integrating sound level meters equipped with LDL ½" microphones. The measurement systems were calibrated using a LDL Model CAL200 acoustical calibrator before and after testing. The measurement equipment meets all of the pertinent requirements of the American National Standards Institute (ANSI) for Type 1 (precision) sound level meters.

The results of the community noise survey shown in Tables 3.12-6 and 3.12-7 indicate that existing transportation noise sources were the major contributor of noise observed during daytime hours, especially during vehicle passbys.

3.12.2 REGULATORY SETTING

Federal

FEDERAL HIGHWAY ADMINISTRATION (FHWA)

The FHWA has developed noise abatement criteria that are used for federally funded roadway projects or projects that require federal review. These criteria are discussed in detail in Title 23 Part 772 of the Federal Code of Regulations (23CFR772).

ENVIRONMENTAL PROTECTION AGENCY (EPA)

The EPA has identified the relationship between noise levels and human response. The EPA has determined that over a 24-hour period, an Leq of 70 dBA will result in some hearing loss. Interference with activity and annoyance will not occur if exterior levels are maintained at an Leq of 55 dBA and interior levels at or below 45 dBA. Although these levels are relevant for planning and design and useful for informational purposes, they are not land use planning criteria because they do not consider economic cost, technical feasibility, or the needs of the community.

The EPA has set 55 dBA Ldn as the basic goal for residential environments. However, other federal agencies, in consideration of their own program requirements and goals, as well as difficulty of actually achieving a goal of 55 dBA Ldn, have generally agreed on the 65 dBA Ldn level as being appropriate for residential uses. At 65 dBA Ldn activity interference is kept to a minimum, and annoyance levels are still low. It is also a level that can realistically be achieved.

The Department of Housing and Urban Development (HUD) was established in response to the Urban Development Act of 1965 (Public Law 90-448). HUD was tasked by the Housing and Urban Development Act of 1965 (Public Law 89-117) "to determine feasible methods of reducing the economic loss and hardships suffered by homeowners as a result of the depreciation in the value of their properties following the construction of airports in the vicinity of their homes."

HUD first issued formal requirements related specifically to noise in 1971 (HUD Circular 1390.2). These requirements contained standards for exterior noise levels along with policies for approving HUD-supported or assisted housing projects in high noise areas. In general, these requirements established the following three zones:

- 65 dBA Ldn or less - an acceptable zone where all projects could be approved.
- Exceeding 65 dBA Ldn but not exceeding 75 dBA Ldn - a normally unacceptable zone where mitigation measures would be required, and each project would have to be individually evaluated for approval or denial. These measures must provide 5 dBA of attenuation above the attenuation provided by standard construction required in a 65 to 70 dBA Ldn area and 10 dBA of attenuation in a 70 to 75 dBA Ldn area.
- Exceeding 75 dBA Ldn - an unacceptable zone in which projects would not, as a rule, be approved.

HUD's regulations do not include interior noise standards. Rather a goal of 45 dBA Ldn is set forth and attenuation requirements are geared towards achieving that goal. HUD assumes that using standard construction techniques, any building will provide sufficient attenuation so that if the exterior level is 65 dBA Ldn or less, the interior level will be 45 dBA Ldn or less. Thus, structural attenuation is assumed at 20 dBA. However, HUD regulations were promulgated solely for residential development requiring government funding and are not related to the operation of schools or churches.

The federal government regulates occupational noise exposure common in the workplace through the Occupational Health and Safety Administration (OSHA) under the EPA. Noise exposure of this type is dependent on work conditions and is addressed through a facility's or construction contractor's health and safety plan. With the exception of construction workers involved in facility construction, occupational noise is irrelevant to this study and is not addressed further in this document.

State

CALIFORNIA DEPARTMENT OF TRANSPORTATION (CALTRANS)

Caltrans has adopted policy and guidelines relating to traffic noise as outlined in the Traffic Noise Analysis Protocol (Caltrans 2011). The noise abatement criteria specified in the protocol are the same as those specified by FHWA.

GOVERNOR'S OFFICE OF PLANNING AND RESEARCH (OPR)

OPR has developed guidelines for the preparation of general plans (Office of Planning and Research, 2003). The guidelines include land use compatibility guidelines for noise exposure.

GLENN COUNTY CODE SECTION 15.560.100 NOISE

The Glenn County Code Section 15.560.100 (Noise) establishes criteria for evaluating the compatibility of individual land uses with respect to noise exposure.

3.12.3 IMPACTS AND MITIGATION MEASURES

THRESHOLDS OF SIGNIFICANCE

Consistent with Appendix G of the CEQA Guidelines, the project will have a significant impact related to noise if it will result in:

- a. Generate a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?
- b. Generate excessive groundborne vibration or groundborne noise levels?
- c. For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?

Generally, a project may have a significant effect on the environment if it will substantially increase the ambient noise levels for adjoining areas or expose people to severe noise levels. In practice, more specific professional standards have been developed. These standards state that a noise impact may be considered significant if it would generate noise that would conflict with local project criteria or ordinances, or substantially increase noise levels at noise sensitive land uses. The potential increase in traffic noise from the project is a factor in determining significance. Research into the human perception of changes in sound level indicates the following:

- A 3-dB change is barely perceptible,
- A 5-dB change is clearly perceptible, and
- A 10-dB change is perceived as being twice or half as loud.

A limitation of using a single noise level increase value to evaluate noise impacts is that it fails to account for pre-project-noise conditions.

TRANSPORTATION NOISE INCREASE CRITERIA

Table 3.12-8 is based upon recommendations made by the Federal Interagency Committee on Noise (FICON) to provide guidance in the assessment of changes in ambient noise levels resulting from aircraft operations. The recommendations are based upon studies that relate aircraft noise levels to the percentage of persons highly annoyed by the noise. Although the FICON recommendations were specifically developed to assess aircraft noise impacts, it has been accepted that they are applicable to all sources of noise described in terms of cumulative noise exposure metrics such as the Ldn.

TABLE 3.12-8: SIGNIFICANCE OF CHANGES IN NOISE EXPOSURE

<i>AMBIENT NOISE LEVEL WITHOUT PROJECT, L_{DN}</i>	<i>INCREASE REQUIRED FOR SIGNIFICANT IMPACT</i>
<60 dB	+5.0 dB or more
60-65 dB	+3.0 dB or more
>65 dB	+1.5 dB or more

SOURCE: FEDERAL INTERAGENCY COMMITTEE ON NOISE (FICON)

Based on the Table 3.12-8 data, an increase in the traffic noise level of 1.5 dB or more would be significant where the pre-project noise level exceeds 65 dB Ldn. Extending this concept to higher noise levels, an increase in the traffic noise level of 1.5 dB or more may be significant where the pre-project traffic noise level exceeds 75 dB Ldn. The rationale for the Table 3.12-8 criteria is that, as ambient noise levels increase, a smaller increase in noise resulting from a project is sufficient to cause annoyance.

These transportation noise thresholds of significance shown in Table 3.12-8 are established by the proposed General Plan via Policy N 1-6.

NON-TRANSPORTATION NOISE INCREASE CRITERIA

Stationary and Non-Transportation Noise Sources - A significant impact will occur if the project results in an exceedance of the noise level standards contained in Table 6-1 of the General Plan Noise Element, or the project will result in an increase in ambient noise levels by more than 3 dB, whichever is greater.

Vibration Standards

Vibration is like noise in that it involves a source, a transmission path, and a receiver. While vibration is related to noise, it differs in that noise is generally considered to be pressure waves transmitted through air, whereas vibration usually consists of the excitation of a structure or surface. As with noise, vibration consists of an amplitude and frequency. A person’s perception to the vibration will depend on their individual sensitivity to vibration, as well as the amplitude and frequency of the source and the response of the system which is vibrating.

Vibration can be measured in terms of acceleration, velocity, or displacement. A common practice is to monitor vibration measures in terms of peak particle velocities in inches per second. Standards

3.12 NOISE

pertaining to perception as well as damage to structures have been developed for vibration levels defined in terms of peak particle velocities.

The County does not have specific policies pertaining to vibration levels. However, vibration levels associated with construction activities and railroad operations are addressed as potential noise impacts associated with project implementation.

TABLE 3.12-9: EFFECTS OF VIBRATION ON PEOPLE AND BUILDINGS

PEAK PARTICLE VELOCITY		HUMAN REACTION	EFFECT ON BUILDINGS
MM/SEC.	IN./SEC.		
0.15-0.30	0.006-0.019	Threshold of perception; possibility of intrusion	Vibrations unlikely to cause damage of any type
2.0	0.08	Vibrations readily perceptible	Recommended upper level of the vibration to which ruins and ancient monuments should be subjected
2.5	0.10	Level at which continuous vibrations begin to annoy people	Virtually no risk of "architectural" damage to normal buildings
5.0	0.20	Vibrations annoying to people in buildings (this agrees with the levels established for people standing on bridges and subjected to relative short periods of vibrations)	Threshold at which there is a risk of "architectural" damage to normal dwelling-houses with plastered walls and ceilings. Special types of finish such as lining of walls, flexible ceiling treatment, etc., would minimize "architectural" damage
10-15	0.4-0.6	Vibrations considered unpleasant by people subjected to continuous vibrations and unacceptable to some people walking on bridges	Vibrations at a greater level than normally expected from traffic but would cause "architectural" damage and possibly minor structural damage.

SOURCE: CALTRANS. TRANSPORTATION RELATED EARTHBOEN VIBRATIONS. TAV-02-01-R9601 FEBRUARY 20, 2002.

Construction activities may generate perceptible vibration when heavy equipment or impact tools (e.g., jackhammers, hoe rams, pile drivers) are used. Construction activities often include demolition of existing structures, excavation, site preparation work, foundation work, and new building framing and finishing.

For structural damage, the California Department of Transportation uses a vibration limit of 0.5 inches/second, peak particle velocity (in/sec, PPV) for buildings structurally sound and designed to modern engineering standards.

Table 3.12-10 presents typical vibration levels that could be expected from construction equipment at a distance of 25-100 feet. The highest levels of vibration typically occur from pile driving operations. Pile driving vibrations are typically below 0.5 in/sec, PPV at distances of 50 feet or more.

TABLE 3.12-10: VIBRATION LEVELS FOR VARIOUS CONSTRUCTION EQUIPMENT

TYPE OF EQUIPMENT	P.P.V. @ 25 FEET (INCHES/SECOND)	P.P.V. @ 50 FEET (INCHES/SECOND)	P.P.V. @ 75 FEET (INCHES/SECOND)	P.P.V. @ 100 FEET (INCHES/SECOND)
Pile Drive (Impact)	0.644	0.226	0.124	0.080
Pile Drive (Sonic)	0.170	0.060	0.033	0.021
Large Bulldozer	0.089	0.031	0.017	0.011
Loaded Trucks	0.076	0.027	0.015	0.010
Small Bulldozer	0.003	0.001	0.000	0.000
Auger/Drill Rigs	0.089	0.031	0.017	0.011
Jackhammer	0.035	0.012	0.006	0.004
Vibratory Hammer	0.070	0.025	0.0135	0.009
Vibratory Compactor/Roller	0.210	0.074	0.040	0.026

SOURCE: FEDERAL TRANSIT ADMINISTRATION, TRANSIT NOISE AND VIBRATION IMPACT ASSESSMENT GUIDELINES, MAY 2006

Impact 3.12-1: General Plan implementation may result in exposure to significant traffic noise sources (Less-Than-Significant)

The FHWA Highway Traffic Noise Prediction Model (FHWA-RD 77-108) was used to develop L_{dn} (24-hour average) noise contours for all highways and major roadways in the General Plan study area. The model is based upon the CALVENO noise emission factors for automobiles, medium trucks, and heavy trucks, with consideration given to vehicle volume, speed, roadway configuration, distance to the receiver, and the acoustical characteristics of the site. The FHWA Model predicts hourly Leq values for free-flowing traffic conditions, and is generally considered to be accurate within 1.5 dB. To predict L_{dn} values, it is necessary to determine the hourly distribution of traffic for a typical 24-hour period.

Existing (2019) and Proposed 2040 General Plan Buildout volumes were obtained from the traffic modeling performed for the General Plan study area. Day/night traffic distributions were based upon continuous hourly noise measurement data and Saxelby Acoustics file data for similar roadways. Using these data sources and the FHWA traffic noise prediction methodology, traffic noise levels were calculated for existing conditions.

Traffic noise levels are predicted at the sensitive receptors located at the closest typical setback distance along each project-area roadway segment. In some locations sensitive receptors may be located at distances which vary from the assumed calculation distance and may experience shielding from intervening barriers or sound walls. However, the traffic noise analysis is representative of the majority of sensitive receptors located closest to the project-area roadway segments analyzed in this report.

The actual distances to noise level contours may vary from the distances predicted by the FHWA model due to roadway curvature, grade, shielding from local topography or structures, elevated roadways, or elevated receivers.

Table 3.12-11 shows the future noise levels and the increase in noise levels associated with traffic on the local roadway network under the proposed General Plan, versus the existing (Baseline 2019) conditions. Appendix C shows the complete inputs and results of the traffic noise modeling.

TABLE 3.12-11: EXISTING (2019) VS. PROPOSED 2040 GENERAL PLAN

ROADWAY	SEGMENT	NOISE LEVELS (L_{DN} , dB) AT NEAREST SENSITIVE RECEPTORS				
		EXISTING (2019)	PROPOSED GP	CHANGE	CRITERIA ¹	SIGNIFICANT?
Road 200 (Newville)	Road 306 to Tehama Co (Morris and Bryant)	39.0	39.4	0.3	+5.0 dB	No
Road 206	Road 200 (Newville) to Black Butte Lake	37.3	37.7	0.4	+5.0 dB	No
Road D	Road 48 to Road 33	37.9	38.1	0.2	+5.0 dB	No
Road D	Road 57 to Colusa County Line	49.9	50.2	0.3	+5.0 dB	No
Road 200 (Newville)	Road FF (Cedar Ave) to Road G	56.7	57.0	0.2	+5.0 dB	No
SR 162 (Wood Street)	Washington Street to Murdock Avenue	63.2	63.5	0.3	+3.0 dB	No
Road 99W	Orland City Limit to Tehama County Line	61.4	61.8	0.4	+3.0 dB	No
Road 99W	Road 39 to Road 48	43.4	43.8	0.3	+5.0 dB	No
Road 99W (N Tehama)	French Street to SR 162 (Biggs-Willows)	60.7	61.1	0.4	+3.0 dB	No
Road 99W	Road 60 (Riz) to Colusa County Line	51.0	51.5	0.5	+5.0 dB	No
Road 9 (Wyo)	Road 99W to Road K	60.5	60.9	0.3	+5.0 dB	No
Road 39 (Bayliss Blue Gum Road)	Road 99W to Road P	44.0	44.3	0.3	+5.0 dB	No
SR 32 (Walker Street)	Linwood Drive to Road N	72.2	72.8	0.6	+3.0 dB	No
SR 162 (Biggs-Willows)	1st Street to Road O	59.1	59.4	0.4	+5.0 dB	No
Road P	SR 32 to Road 18	59.4	59.6	0.2	+5.0 dB	No
Road P	Road 48 to Willow Creek	51.2	51.4	0.2	+5.0 dB	No
Road 45	Road P to Road S	39.3	39.5	0.3	+5.0 dB	No
Road S	Road 30 to Road 25	49.6	49.9	0.3	+5.0 dB	No
Road S	Road 45 to Road 44	42.6	43.0	0.4	+5.0 dB	No
Road 60	Road P to Road SS	54.7	54.9	0.2	+5.0 dB	No
Road V	State Highway 162 to Road 57	37.7	38.3	0.6	+5.0 dB	No
Road 24	State Highway 45 to Road V	46.5	46.8	0.3	+5.0 dB	No
SR 32	Sacramento Ave to Gianella Road	64.8	65.0	0.3	+3.0 dB	No
SR 45	SR 24 (St John) to Road 29	56.4	56.6	0.2	+5.0 dB	No
SR 162 (Biggs-Willows)	n/o to Road 52	63.0	63.2	0.2	+5.0 dB	No
SR 162 (Biggs-Willows)	McDougal Street to Road D	66.6	66.9	0.2	+3.0 dB	No
Road 48	Road Z to Butte County Line	49.7	49.9	0.3	+5.0 dB	No
Road Z	State Highway 162 to Road 48	37.4	37.6	0.3	+5.0 dB	No

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TABLE 3.12-11: EXISTING (2019) VS. PROPOSED 2040 GENERAL PLAN

ROADWAY	SEGMENT	NOISE LEVELS (L_{DN} , dB) AT NEAREST SENSITIVE RECEPTORS				
		EXISTING (2019)	PROPOSED GP	CHANGE	CRITERIA ¹	SIGNIFICANT?
Road Z	Road 67 to State Highway 162	50.5	50.9	0.3	+5.0 dB	No
Interstate 5	Countywide	76.3	76.5	0.2	+1.5 dB	No

¹ WHERE EXISTING NOISE LEVELS ARE LESS THAN 60 DB AN INCREASE OF 5 DB WOULD BE A SIGNIFICANT INCREASE. WHERE EXISTING NOISE LEVELS EXCEED 60 DB BUT ARE LESS THAN 65 DB, AN INCREASE OF 3 DB OR MORE WOULD BE SIGNIFICANT. ADDITIONALLY, ANY INCREASE CAUSING NOISE LEVELS TO EXCEED THE COUNTY'S NORMALLY ACCEPTABLE 60 DB LDN NOISE LEVEL STANDARD AT AN EXISTING OUTDOOR ACTIVITY AREA OF A RESIDENTIAL USE WOULD ALSO BE SIGNIFICANT. WHERE EXISTING NOISE LEVELS EXCEED 65 DB, AN INCREASE OF 1.5 DB OR MORE WOULD BE SIGNIFICANT.

SOURCE: FHWA-RD-77-108 WITH INPUTS FROM FEHR & PEERS TRANSPORTATION CONSULTANTS, CALTRANS, AND SAXELBY ACOUSTICS 2022.

Buildout of the General Plan may contribute to an exceedance of the County's transportation noise standards and/or result in significant increases in traffic noise levels at existing sensitive receptors. As indicated by Tables 3.12-11, the related traffic noise level increases with a circulation system buildout of the proposed 2040 General Plan are predicted to increase between 0.1 to 0.6 dB versus the existing (2019) conditions.

General Plan Policies N 1-1 through N 1-6, and Action N-1a, identified below, are intended to minimize exposure to excessive noise, including noise associated with traffic. Specifically, Policies N 1-1 through N 1-6 support noise-compatible land uses in the vicinity of traffic noise sources and require that new development and infrastructure projects be reviewed for consistency with the noise standards established in Tables N-1 and N-2. The proposed General Plan standards required under Policy N 1-3, for exposure to traffic noise meet or exceed the noise level standards of the adopted General Plan.

As shown in Table 3.12-11, the traffic noise increases associated with the proposed General Plan comply with the applicable test of significance. Therefore, the proposed General Plan would have a **less-than-significant** impact relative to traffic noise on existing noise-sensitive uses in the County.

GENERAL PLAN POLICIES AND ACTIONS THAT MINIMIZE POTENTIAL IMPACTS**GOAL N-1**

Protect residents from harmful and annoying exposure to excessive noise throughout the community and preserve the rural noise environment in Glenn County

Policies

- N 1-1 Consider the noise compatibility of existing and future land uses when making land use planning decisions.
- N 1-2 Recognize that Glenn County is a predominantly agricultural county and that agricultural activities can generate significant sources of noise. The policies in this element shall not be interpreted to restrict or otherwise hinder legal agricultural activities.
- N 1-3 Require development projects to be consistent with the standards indicated in Table N-1 and N-2 to ensure acceptable noise levels for existing and future development.
- N 1-4 Ensure that new development does not result in indoor noise levels exceeding 45 dBA Ldn for residential uses by requiring the implementation of construction techniques and noise reduction measures for all new residential development.
- N 1-5 Require acoustical studies for new discretionary developments and transportation improvements that have the potential to impact existing noise-sensitive uses such as schools, hospitals, libraries, care facilities, and residential areas; and for projects that would introduce new noise-sensitive uses into an area where existing noise levels may exceed the thresholds identified in this element.
- N 1-6 For projects that are required to prepare an acoustical study to analyze noise impacts, the following criteria shall be used to determine the significance of those impacts:

STATIONARY NOISE SOURCES

- The following criteria shall be used to determine the significance, for projects required by the California Environmental Quality Act to analyze noise impacts from stationary sources:
 - A significant impact will occur if the project results in an exceedance of the noise level standards contained in this element, or for instances where the ambient noise level is already above the standards contained in this element, or the project will result in an increase in ambient noise levels by more than 3 dB, whichever is greater. This does not apply to temporary construction activities or agricultural activities.

TRANSPORTATION NOISE SOURCES

- The following criteria shall be used to determine the significance, for projects required by the California Environmental Quality Act to analyze roadway noise impacts for roadway improvement, development, and other projects that increase roadway noise:
 - Where existing traffic noise levels are less than 60 dB Ldn at the outdoor activity areas of noise- sensitive uses, a +5 dB Ldn increase in roadway noise levels will be considered significant; and
 - Where existing traffic noise levels range between 60 and 65 dB Ldn at the outdoor activity areas of noise-sensitive uses, a +3 dB Ldn increase in roadway noise levels will be considered significant; and
 - Where existing traffic noise levels are greater than 65 dB Ldn at the outdoor activity areas of noise-sensitive uses, a + 1.5 dB Ldn increase in roadway noise levels will be considered significant.

- N 1-7 Require construction activities to comply with best practices to reduce noise exposure to adjacent sensitive receptors (see Action N 1d).
- N 1-8 Regulate the effects of operational noise from existing and new industrial and commercial development on adjacent sensitive uses through the enforcement of the County’s noise standards.
- N 1-9 Temporary emergency operations or emergency equipment usage authorized by the County shall be exempt from noise standard criteria set by this element.
- N 1-10 Require new land use development proposals to address potential noise impacts and land use incompatibilities from aircraft noise, and train travel.
- N 1-11 Require new development projects and long-term planning projects to conform to the County’s Airport Safety and Noise land use criteria, as identified in Orland and Willows Airport Land Use Plans (ALUP).
- N 1-12 Where noise mitigation measures are required to achieve the standards of Tables N-1 or N-2, the emphasis of such measures shall be placed upon site planning and project design. The use of noise barriers shall be considered a means of achieving the noise standards only after all other practical design-related noise mitigation measures have been considered and integrated into the project.

- N 1-13 As feasible, orient buildings such that the noise sensitive portions of a project are shielded from noise sources. Noise attenuation barriers are discouraged and should be used in the context of new developments when other approaches to noise mitigation are infeasible.
- N 1-14 Support noise-compatible land uses along existing and future high-volume roadways, including County, State, and Interstate routes.
- N 1-15 As part of the review of new development projects, consider groundborne vibration and noise nuisance associated with rail operations prior to approving the development of sensitive uses.
- N 1-16 Recognize that agricultural activities are important to Glenn County's character and economy, and that agricultural operations are characterized by elevated noise levels from the use of tractors, heavy equipment, crop dusting, agricultural processing, and other supporting equipment and activities.
- N 1-17 Protect the County's economic base by preventing incompatible land uses from encroaching upon existing or planned noise producing agriculture, and agriculture industries and continue to support the County's right-to-farm ordinance when addressing noise concerns or complaints as they relate to agricultural operations.

ACTIONS IN SUPPORT OF GOAL N1

- Action N-1a *Require that new development projects are reviewed for compliance with Glenn County Code and the noise requirements established in this element, including the standards established in Tables N-1 and N-2, prior to project approval.*
- Action N-1b *Continue to implement the County's Right-To-Farm Ordinance requirements to ensure and support agricultural operations continue to be viable and successful.*
- Action N-1c *Continue to enforce the State Noise Insulation Standards (Title 24, California Code of Regulations and Chapter 35 of the Uniform Building Code).*
- Action N-1d *During the environmental review process, determine if proposed construction will constitute a significant impact on nearby sensitive receptors and, if necessary, require mitigation measures in addition to the standard best practice controls. Suggested best practices for control of construction noise include:*
- *Noise-generating construction activities, including truck traffic coming to and from the construction site for any purpose, shall be limited to between the hours of 7:00 am and 7:00 pm. Construction staging areas shall be established at locations that will create the greatest distance between the construction-related noise sources and noise-sensitive receptors nearest the project site during all project construction activities, to the extent feasible.*
 - *Neighbors located adjacent to the construction site shall be notified of the construction schedule in writing.*

- *The construction contractor shall designate a “noise disturbance coordinator” who will be responsible for responding to any local complaints about construction noise. The disturbance coordinator shall be responsible for determining the cause of the noise complaint (e.g., starting too early, poor muffler, etc.) and instituting reasonable measures as warranted to correct the problem. A telephone number for the disturbance coordinator shall be conspicuously posted at the construction site.*
- *At all times during project grading and construction, stationary noise-generating equipment shall be located as far as practicable from sensitive receptors and placed so that emitted noise is directed away from residences.*
- *Unnecessary idling of internal combustion engines shall be prohibited for a duration of longer than five minutes.*
- *Construction staging areas shall be established at locations that will create the greatest distance between the construction-related noise sources and noise-sensitive receptors nearest the project site during all project construction activities, to the extent feasible.*
- *Neighbors located adjacent to the construction site shall be notified of the construction schedule in writing.*
- *The construction contractor shall designate a “noise disturbance coordinator” who will be responsible for responding to any local complaints about construction noise. The disturbance coordinator shall be responsible for determining the cause of the noise complaint (e.g., starting too early, poor muffler, etc.) and instituting reasonable measures as warranted to correct the problem. A telephone number for the disturbance coordinator shall be conspicuously posted at the construction site.*

- Action N-1e Periodically review noise complaints for emerging trends in the community noise environment. Update the Glenn County Code, as necessary, to address emerging trends.*
- Action N-1f Review new development and long-term planning projects, including the Zoning Code Update, for conformity with the County’s Noise land use criteria, as identified in the Orland and Willows Airport Land Use Plans (ALUP).*
- Action N-1g Collaborate with Caltrans, the California Public Utilities Commission and railroad operators to improve at-grade railroad crossings and, as feasible, seek quiet crossings in and/or near communities and developed areas to reduce the necessity for train horn/whistle blasting.*
- Action N-1h As feasible, plan for and maintain designated truck travel routes to minimize impacts on noise sensitive land uses.*
- Action N-1i As part of the project review and approval process, review new developments within 100 feet of rail lines to ensure that vibration experienced by residents and sensitive uses would not exceed the Federal Transit Administration guidelines.*

TABLE N-1: LAND USE COMPATIBILITY FOR COMMUNITY NOISE ENVIRONMENT

TABLE N-1: LAND USE COMPATIBILITY FOR COMMUNITY NOISE ENVIRONMENT

Land Use Category	Exterior Noise Exposure (Ldn)					
	55	60	65	70	75	80
Residential		Conditionally Acceptable	Conditionally Acceptable	Unacceptable	Unacceptable	Unacceptable
Lodging, Hotels, and Motels		Conditionally Acceptable	Conditionally Acceptable	Unacceptable	Unacceptable	Unacceptable
Outdoor Sports, Playgrounds Neighborhood Parks		Normally Acceptable	Normally Acceptable	Unacceptable	Unacceptable	Unacceptable
Schools, Libraries, Museums, Hospitals, Public Assembly		Conditionally Acceptable	Conditionally Acceptable	Unacceptable	Unacceptable	Unacceptable
Office Buildings, Commercial, and Professional		Conditionally Acceptable	Conditionally Acceptable	Unacceptable	Unacceptable	Unacceptable
Industrial		Normally Acceptable	Normally Acceptable	Unacceptable	Unacceptable	Unacceptable

NORMALLY ACCEPTABLE	Specified land use is satisfactory, based upon the assumption that any buildings involved are of normal conventional construction, without any special insulation requirements
CONDITIONALLY ACCEPTABLE	Specified land use may be permitted only after detailed analysis of the noise reduction requirements and needed noise insulation features included in the design
UNACCEPTABLE	New construction or development should generally not be undertaken because mitigation was found to be infeasible to comply with noise element policies

Ldn Day/Night Average Sound Level. Similar to CNEL but with no evening weighting.

TABLE N-2: STATIONARY (NON-TRANSPORTATION) NOISE SOURCE STANDARDS

TABLE N-2: STATIONARY (NON-TRANSPORTATION) NOISE SOURCE STANDARDS

Land Use Receiving the Noise	Hourly Noise-Level Descriptor	Exterior Noise-Level Standard (dBA)	
		Daytime (7am-10pm)	Nighttime (10pm-7am)
Residential	L _{eq}	55	45
	L _{max}	70	65

Notes:

- a) The residential standards apply to all properties that are designated or zoned for residential use. The exterior noise level standard is to be applied at the property line of the receiving land use or at a designated outdoor activity area.
- b) Each of the noise levels specified above shall be lowered by 5 dBA for tonal noises characterized by a whine, screech, or hum, noises consisting primarily of speech or music, or recurring impulsive noises. In no case shall mitigation be required to a level that is less than existing ambient noise levels, as determined through measurements conducted during the same operational period as the subject noise source.
- c) In situations where the existing noise level exceeds the noise levels indicated in the above table, any new noise source must include mitigation that reduces the noise level of the noise source to the existing level plus 3 dB.

Tonal Noises are characterized by a whine, screech, beep, or hum, consisting primarily of speech or music, or recurring impulsive noises. Tonal noises can cause unpleasant experiences in spaces adjacent to areas that produce tonal noise, which annoys occupants and, in turn, lead to increased complaints from nearby sensitive receptors.

L_{eq} Equivalent or energy-averaged sound level.
 L_{max} The highest root-mean-square (RMS) sound level measured over a given period of time.

Impact 3.12-2: General Plan implementation may result in exposure to excessive railroad noise sources (Less than Significant)

Table 3.12-4 indicates that the 60 dBA L_{dn} railroad noise contours for the CNFR line may extend up to 55 feet from the railroad centerline. Future development located along these railroad lines could therefore be exposed to unacceptable exterior noise levels.

Specifically, Policies N 1-1, N 1-2, and N 1-5 support noise-compatible land uses in the vicinity of railroad noise sources and require that new development and infrastructure projects be reviewed for consistency with the noise standards established in Tables N-1 and N-2. The proposed General Plan standards required under Policy N 1-3, for exposure to railroad noise meet or exceed the noise level standards of the adopted General Plan. Policy N 1-3 and Actions N-1a would ensure that new development mitigates potential noise impacts through incorporating the noise control treatments necessary to achieve acceptable noise levels.

Implementation of these General Plan policies and actions would ensure that development allowed under the proposed General Plan is not exposed to noise levels associated with railroad operations in excess of the County's established standards. This is a **less than significant** impact.

Impact 3.12-3: Implementation of the General Plan could result in the generation of excessive stationary noise sources (Less than Significant)

Implementation of the General Plan could result in the future development of land uses that generate noise levels in excess of applicable County noise standards for non-transportation noise sources. Such land uses may include commercial area loading docks, industrial uses, HVAC equipment, car washes, daycare facilities, auto repair, and recreational uses. While the General Plan does not specifically propose any new noise generating uses, the Land Use Map includes industrial land use designations, which may result in new noise sources. Specific land uses that would be located in the county are not known at this time. Additionally, noise from existing stationary sources, as identified in the background section of this chapter, will continue to impact noise-sensitive land uses in the vicinity. New projects which may include stationary noise sources such as automotive and truck repair facilities, tire installation centers, car washes, loading docks, corporation yards, parks, and play fields may create noise levels in excess of the County's standards.

While no specific projects are proposed under the general plan update, changes in land use zoning may allow for more intensive noise-generating uses in closer proximity to noise-sensitive uses. Where this occurs, detailed noise studies would be required to ensure that noise control measures are implemented into the project design. Such measures could include facing loading docks of industrial buildings away from sensitive uses, construction of sound walls or berms between loading docks and sensitive uses, using buildings to create additional buffer distance and screening, or other site design measures to ensure that non-transportation (stationary) noise sources do not cause exterior noise levels to exceed allowable standards at sensitive receptors.

For example, a typical busy loading dock for a warehouse might generate noise levels of approximately 66 dBA L_{eq} at a distance of 100 feet, as shown in Table 3.12-5. This would exceed the County's proposed stationary noise standards of 55 dBA L_{eq} (daytime) and 45 dBA L_{eq} (nighttime). Construction of a 12-foot-tall sound wall would reduce loading dock noise levels to approximately 53 dBA L_{eq} (Appendix C). For a daytime use loading dock, this would be sufficient to meet the County's 55 dBA L_{eq} daytime noise standard. For a loading dock which requires nighttime operation, a sound wall would not be sufficient to achieve the 45 dBA L_{eq} nighttime noise standard. To achieve the nighttime noise standard, the distance from the loading dock would need to be increased to 250 feet for the 12-foot-tall wall to achieve the 45 dBA L_{eq} nighttime standard (Appendix C). Alternatively, the loading docks could face internal to the project site and the industrial building could be used to screen loading dock noise. In this case the loading dock could be located 150 feet from a sensitive receptor, assuming it was screened by a 20-foot-tall building (Appendix C). This would achieve the County's 45 dBA L_{eq} nighttime noise standard. While this is just a theoretical scenario, it illustrates that use of site design measures, screening walls, etc. can be sufficient to achieve compliance with the County's stationary noise standards, even when more intensive uses are proposed in closer proximity to sensitive receptors.

The General Plan includes policies and actions that are intended to reduce noise associated with stationary sources. Specifically, Policies N 1-1 through N 1-6 and Action N-1a would reduce noise associated with stationary sources. Implementation of the proposed policies and actions of the General Plan will reduce noise impacts from stationary noise sources to a **less than significant** level.

Impact 3.12-4: General Plan implementation may result in an increase in construction noise sources (Less than Significant)

New development, maintenance of roadways, and installation of public utilities and infrastructure generally require construction activities. These activities include the use of heavy equipment and impact tools. Table 3.12-12 provides a list of the types of equipment which may be associated with construction activities, and their associated noise levels.

TABLE 3.12-12: CONSTRUCTION EQUIPMENT NOISE

TYPE OF EQUIPMENT	PREDICTED NOISE LEVELS, LMAX dB				DISTANCES TO NOISE CONTOURS (FEET)	
	NOISE LEVEL AT 50'	NOISE LEVEL AT 100'	NOISE LEVEL AT 200'	NOISE LEVEL AT 400'	70 dB LMAX CONTOUR	65 dB LMAX CONTOUR
Backhoe	78	72	66	60	126	223
Compactor	83	77	71	65	223	397
Compressor (air)	78	72	66	60	126	223
Concrete Saw	90	84	78	72	500	889
Dozer	82	76	70	64	199	354
Dump Truck	76	70	64	58	100	177
Excavator	81	75	69	63	177	315
Generator	81	75	69	63	177	315
Jackhammer	89	83	77	71	446	792
Pneumatic Tools	85	79	73	67	281	500

Source: Roadway Construction Noise Model User’s Guide. Federal Highway Administration. FHWA-HEP-05-054. January 2006. Saxelby Acoustics, LLC 2019.

Activities involved in construction would typically generate maximum noise levels ranging from 85 to 90 dB at a distance of 50 feet. Construction could result in periods of significant ambient noise level increases and the potential for annoyance. However, the proposed General Plan includes policies and actions that are intended to reduce noise associated with construction noise (listed below). Specifically, Action N-1b would reduce noise associated with construction noise. Implementation of the proposed policies and actions of the General Plan will ensure noise impacts from construction are **less than significant**.

GENERAL PLAN POLICIES AND ACTIONS THAT MINIMIZE POTENTIAL IMPACTS

- Action N-1d *During the environmental review process, determine if proposed construction will constitute a significant impact on nearby sensitive receptors and, if necessary, require mitigation measures in addition to the standard best practice controls. Suggested best practices for control of construction noise include:*
- *Noise-generating construction activities, including truck traffic coming to and from the construction site for any purpose, shall be limited to between*

the hours of 7:00 am and 7:00 pm. Construction staging areas shall be established at locations that will create the greatest distance between the construction-related noise sources and noise-sensitive receptors nearest the project site during all project construction activities, to the extent feasible.

- *Neighbors located adjacent to the construction site shall be notified of the construction schedule in writing.*
- *The construction contractor shall designate a “noise disturbance coordinator” who will be responsible for responding to any local complaints about construction noise. The disturbance coordinator shall be responsible for determining the cause of the noise complaint (e.g., starting too early, poor muffler, etc.) and instituting reasonable measures as warranted to correct the problem. A telephone number for the disturbance coordinator shall be conspicuously posted at the construction site.*
- *At all times during project grading and construction, stationary noise-generating equipment shall be located as far as practicable from sensitive receptors and placed so that emitted noise is directed away from residences.*
- *Unnecessary idling of internal combustion engines shall be prohibited for a duration of longer than five minutes.*
- *Construction staging areas shall be established at locations that will create the greatest distance between the construction-related noise sources and noise-sensitive receptors nearest the project site during all project construction activities, to the extent feasible.*
- *Neighbors located adjacent to the construction site shall be notified of the construction schedule in writing.*
- *The construction contractor shall designate a “noise disturbance coordinator” who will be responsible for responding to any local complaints about construction noise. The disturbance coordinator shall be responsible for determining the cause of the noise complaint (e.g., starting too early, poor muffler, etc.) and instituting reasonable measures as warranted to correct the problem. A telephone number for the disturbance coordinator shall be conspicuously posted at the construction site.*

Impact 3.12-5: General Plan implementation may result in exposure to excessive aircraft noise sources (Less than Significant)

Implementation of the General Plan could result in the creation of new noise-sensitive land uses within the 60 dB CNEL noise contours contained within the Willows-Glenn County Airport Comprehensive Land Use Plan, as shown by Figure 3.12-2 or the Orland Haigh Field airport, as shown by Figure 3.12-3. Additionally, the implementation of the 2040 General Plan may result in the creation of new noise-sensitive land uses within over-flight areas of either airport, thereby presenting the potential for annoyance from single event noise.

Single-event noise associated with aircraft overflights is also of concern when evaluating aircraft noise effects in terms of land use compatibility. Single-event noise is the maximum sound level produced by an individual approach overflight at a specific location, often described in terms of L_{max} , which is the maximum sound level recorded for each event. A different measurement is single-event noise, also commonly used when evaluating aircraft noise, is the SEL. The SEL describes the event's mean energy level over the duration of the noise event. As would be expected, single-event noise levels for aircraft overflights within the Planning Area would be greatest and most frequent near the airport's primary flight paths.

General Plan Policies N 1-1, N 1-3, N 1-4, N 1-5, N 1-11, and Actions N-1a and N-1f, identified below, are intended to minimize exposure to excessive noise, including noise associated with aircraft noise sources. Specifically, Policies N-1.1 through N-1.5 and N 1-11 support noise-compatible land uses in the vicinity of aircraft noise sources and require that new development projects be reviewed for consistency with the noise standards established in Tables N-1 and N-2. The proposed General Plan standards required under Policy N 1-3, for exposure to aircraft noise meet or exceed the noise level standards of the adopted General Plan.

The General Plan includes policies and actions intended to reduce noise impacts throughout the County. With the implementation of the General Plan policies and actions, the noise impact relative to airports would be **less than significant**.

GENERAL PLAN POLICIES AND ACTIONS THAT MINIMIZE POTENTIAL IMPACTS**Policies**

- N 1-1 Consider the noise compatibility of existing and future land uses when making land use planning decisions.
- N 1-3 Require development projects to be consistent with the standards indicated in Table N-1 and N-2 to ensure acceptable noise levels for existing and future development.
- N 1-4 Ensure that new development does not result in indoor noise levels exceeding 45 dBA Ldn for residential uses by requiring the implementation of construction techniques and noise reduction measures for all new residential development.
- N 1-5 Require acoustical studies for new discretionary developments and transportation improvements that have the potential to impact existing noise-sensitive uses such as schools, hospitals, libraries, care facilities, and residential areas; and for projects that would introduce new noise-sensitive uses into an area where existing noise levels may exceed the thresholds identified in this element.

- N 1-11 Require new development projects and long-term planning projects to conform to the County's Airport Safety and Noise land use criteria, as identified in Orland and Willows Airport Land Use Plans (ALUP).

Actions in Support of Goal N-1

- Action N-1a* Require that new development projects are reviewed for compliance with Glenn County Code and the noise requirements established in this element, including the standards established in Tables N-1 and N-2, prior to project approval.
- Action N-1f* Review new development and long-term planning projects, including the Zoning Code Update, for conformity with the County's Noise land use criteria, as identified in the Orland and Willows Airport Land Use Plans (ALUP).

Impact 3.12-6: General Plan implementation may result in construction vibration (Less than Significant)

Construction activities facilitated by the proposed General Plan may include demolition of existing structures, site preparation work, excavation of below grade levels, foundation work, pile driving, and new building erection. Demolition for an individual site may last several weeks and at times may produce substantial vibration. Excavation for underground levels may also occur on some project sites and vibratory pile driving could be used to stabilize the walls of the excavated area. Piles or drilled caissons may also be used to support building foundations.

Heavy tracked vehicles (e.g., bulldozers or excavators) can generate distinctly perceptible groundborne vibration levels when this equipment operates within approximately 25 feet of sensitive land uses. Impact pile drivers can generate distinctly perceptible groundborne vibration levels at distances up to about 100 feet, and may exceed building damage thresholds within 25 feet of any building, and within 50-100 feet of a historical building, or building in poor condition. Other construction activities, such as caisson drilling, the use of jackhammers, rock drills and other high-power or vibratory tools, and rolling stock equipment (tracked vehicles, compactors, etc.) may also potentially generate substantial vibration in the immediate vicinity.

Depending on the proximity of existing structures to each construction site, the structural soundness of the existing buildings, and the methods of construction used, vibration levels may be high enough to damage existing structures. Given the scope of the General Plan and the close proximity of many existing structures, groundborne vibration impacts would be potentially significant.

As with any type of construction, vibration levels may at times be perceptible. However, construction phases that have the highest potential of producing vibration (pile driving and use of jackhammers and other high-power tools) would be intermittent and would only occur for short periods of time for any individual project site.

General Plan Action N-1d would ensure administrative controls such as notifying neighbors of scheduled construction activities and scheduling construction activities with the highest potential to

produce perceptible vibration to hours with the least potential to affect nearby businesses, in order to ensure that perceptible vibration can be kept to a minimum.

While typical construction vibrations are not predicted to cause damage to existing buildings or cause annoyance to sensitive receptors located further than 25-feet, should pile driving be required within 50 feet of an existing structure, Action N-1j would be required to ensure that construction vibrations do not cause damage to any adjacent structures. Action N-1j states that If pile driving is required within 50 feet of an existing structure, pre-construction crack documentation and construction vibration monitoring shall be conducted to ensure that construction vibrations do not cause damage to any adjacent structures. The results of the documentation and monitoring shall be submitted to the County Community Development Department prior to the start of construction activities which would occur within 50 feet of an existing structure. With implementation of Action N-1jj, the proposed project would have a **less than significant** impact relative to this environmental topic.

Impact 3.12-7: General Plan implementation may result in exposure to groundborne vibration (Less than Significant)

Development facilitated by the General Plan could expose persons to excessive groundborne vibration levels attributable to trains. The proposed locations of buildings and their specific sensitivity to vibration are not known at this time; however, such uses located in close proximity to railroad tracks could be exposed to ground vibration levels exceeding FTA guidelines.

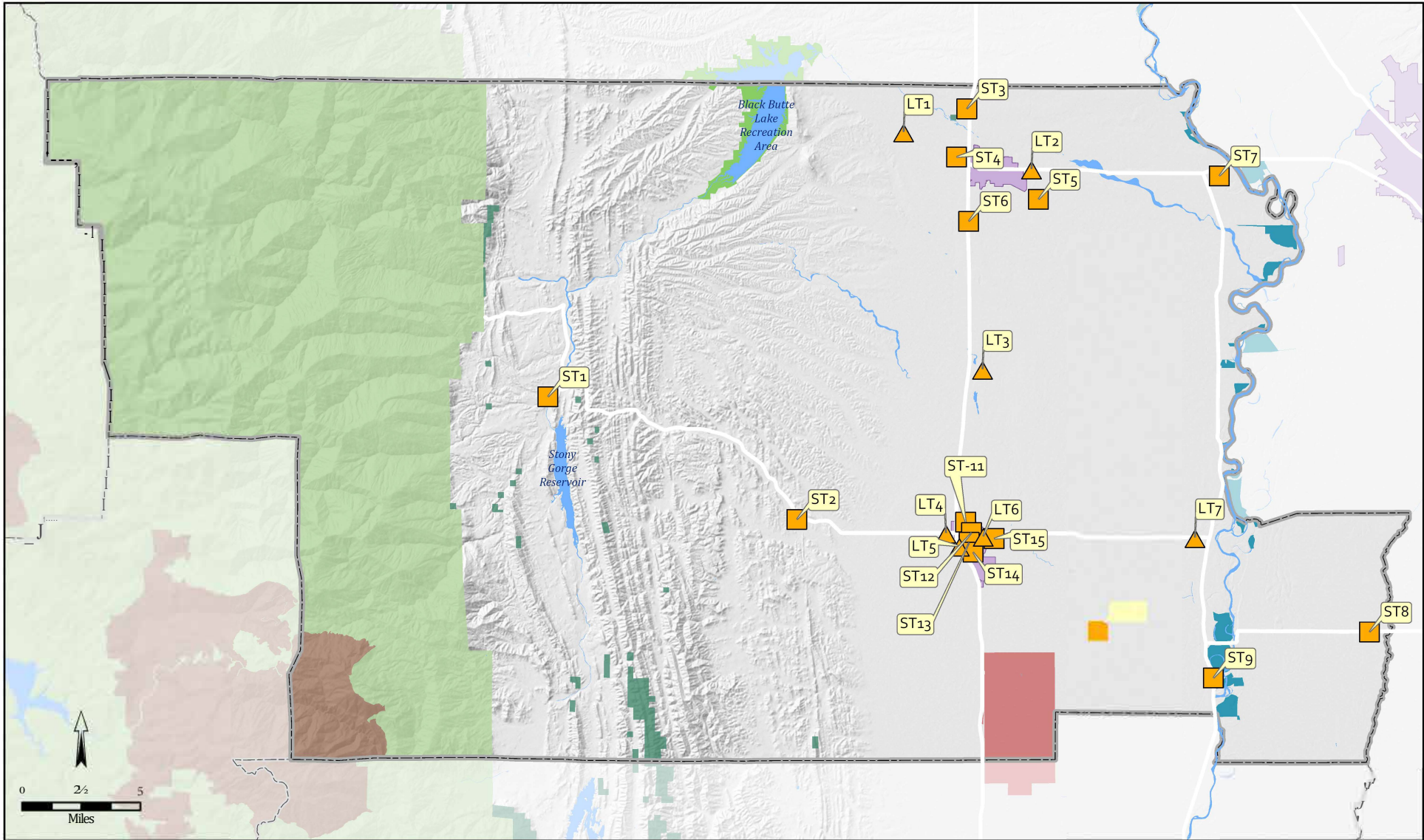
The proposed General Plan includes Policy N 1-15 which requires that individual development projects undergo project-specific environmental review and address potential vibration impacts associated with railroad operations. Action N-1i requires that development projects within 100 feet of rail lines be reviewed for vibration compatibility according to Federal Transit Administration guidelines. If project-level significant vibration impacts are identified, specific mitigation measures will be required under CEQA. The implementation of this policy would limit potential groundborne vibrations associated with railroad operations to a **less than significant** level.

GENERAL PLAN POLICIES AND ACTIONS THAT MINIMIZE POTENTIAL IMPACTS

ACTIONS

N 1-15 As part of the review of new development projects, consider groundborne vibration and noise nuisance associated with rail operations prior to approving the development of sensitive uses.

Action N-1i As part of the project review and approval process, review new developments within 100 feet of rail lines to ensure that vibration experienced by residents and sensitive uses would not exceed the Federal Transit Administration guidelines.



Sources: USGS National Map; u s e s Protected Areas Database; CalAtlas. Map date: March 29, 2019.

Legend

Public Lands

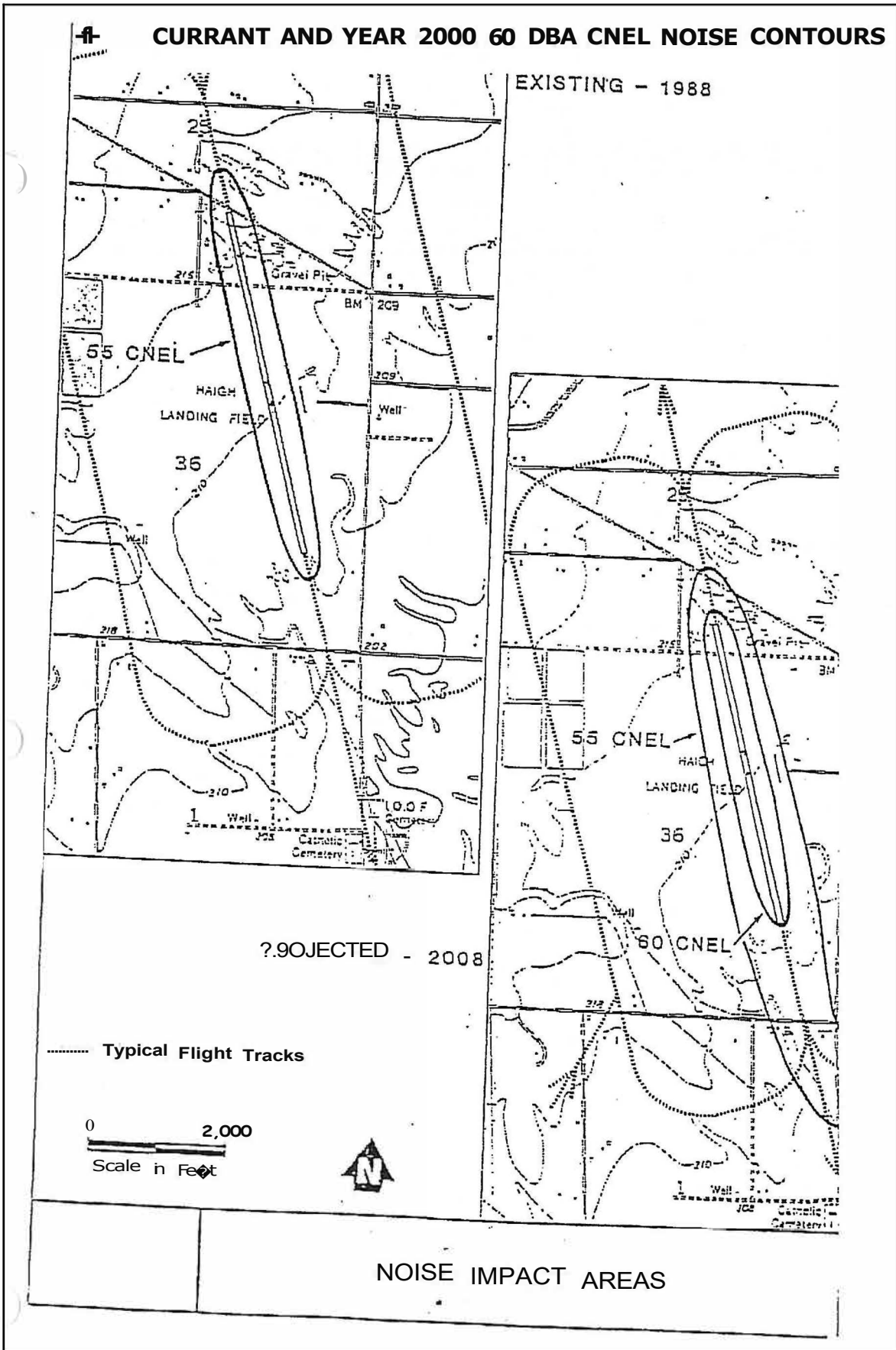
- Mendocino National Forest
- Wilderness Area
- USFWS Sacramento National Wildlife Refuge
- USFWS Sacramento River National Wildlife Refuge
- BLM Lands

- Noise Measurement Sites - Long Term
- Noise Measurement Location - Short Term

COUNTY OF GLENN, CALIFORNIA

FIGURE 3.12-1 Noise Measurement Locations

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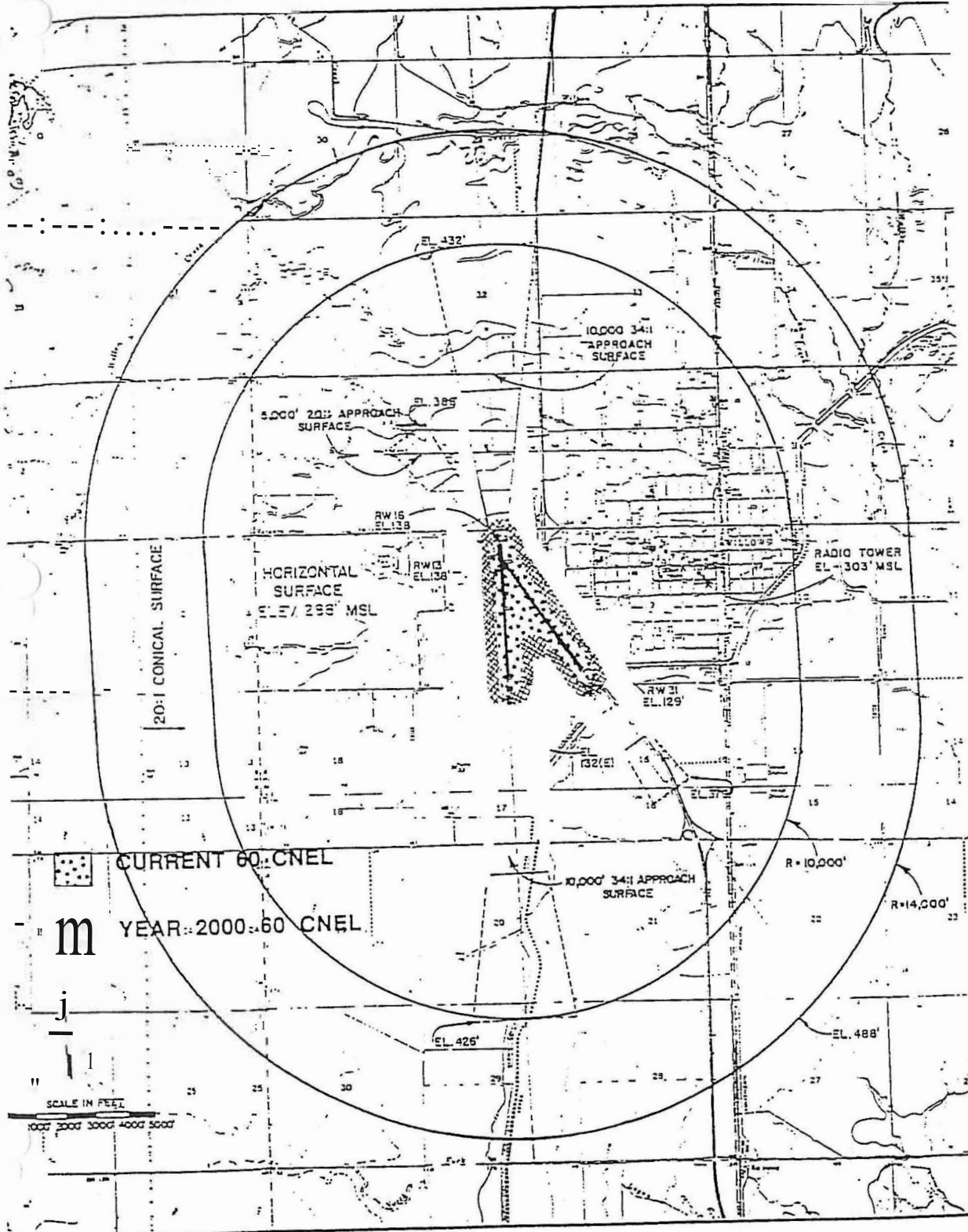


COUNTY OF GLENN, CALIFORNIA

FIGURE 3.12-2 Orland Haigh Field Airport Noise Contours

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MAP #3
 CURRENT AND YEAR 2000 60dBA CNEL NOISE CONTOURS



WADELL ENGINEERING CORPORATION

COUNTY OF GLENN, CALIFORNIA

FIGURE 3.12-3 Willows-Glenn County Airport Noise Contours

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Public services such as fire and police protection services are vital to maintaining a safe and healthy community. Educational services serve as a foundation for providing citizens with the skills and resources to excel today and in the future. There are many other public services that are important to a community, such as parks and recreational opportunities, schools, libraries, museums, hospitals, and other healthcare facilities.

This section provides a background discussion and analysis of fire protection services, police services, schools, parks and recreational facilities, libraries, and other community facilities and services. This section is organized with an existing setting, regulatory setting, and impact analysis.

Utilities services, including water, sewer, and solid waste disposal are addressed in Chapter 3.15 (Utilities and Service Systems) of this Draft EIR.

No comments were received during the NOP comment period regarding this environmental topic.

3.13.1 ENVIRONMENTAL SETTING

FIRE PROTECTION SERVICES

Fire protection in Glenn County is provided by twelve individual fire districts (including the cities of Willows and Orland), the California Department of Forestry (CDF), and the U.S. Forest Service. On a seasonal basis, protection is also provided by the California Department of Forestry (CDF) in the unincorporated foothill and rural areas. In the areas covered by the CDF that are also served by a fire district, both respond to fires during the fire season (approximately May 1 to November 1). Fire departments in Glenn County may be staffed with paid professional firefighters, volunteers, or a combination of the two. Professional fire services in California are organized around a central command with response units, known as fire companies, geographically dispersed throughout Glenn County. Glenn County Volunteer Fire Departments are organized with a similar structure or as independent Glenn County Fire departments and districts with their own fire company.

In an emergency situation, 911 calls are received at a designated public safety answering point (PSAP). The Glenn County PSAP routes the call to the appropriate dispatch agency, which coordinates the Glenn County Fire Dept response. The responding Fire House may be determined based on geographic location or the resource needed for the call, such as an aerial ladder, fire hose, fire truck, water pumper, tanker truck, brush fire vehicle, rescue vehicle, or paramedic emergency services. In many cases, multiple Fire Stations and fire engines are dispatched to the emergency.

Fire prevention education is part of fire protection services under the authority of the Office of the State Fire Marshal. Fire prevention involves the enforcement of the Glenn County and California Fire Code and is closely associated with the building code and building permitting process. The acting Fire Marshal, who is contracted by the Community Development Services Agency, is involved in the plan review process for new construction or renovation projects and is responsible for ensuring that Fire Code requirements are met before signing off on design plans. Other common fire prevention efforts include educational programs in Glenn County schools, public information campaigns, smoke

detector distribution programs, and outreach at public events. The Glenn County Fire Marshal also investigates structure fires to determine their causes.

The incidence of fire in the county is relatively low, particularly on the valley floor. The greatest hazards are in the forest area, which generally fall under the jurisdiction of state and federal agencies. The greatest threat of fire occurs annually during the months from June through October due to dry conditions and summer heat. Each summer, the CDF and U.S. Forest Service increase their staff in anticipation of brush and forest fires.

The rural fire protection districts are responsible for structural and wildfire protection as well as medical emergencies within their respective districts. Response times can range from one minute in the cities of Willows and Orland to more than 20 minutes in the rugged mountain areas.

Each fire protection district earns a rating calculated by the Insurance Service Office (ISO). This rating, known as a Public Protection Classification (PPC), is utilized by many insurance providers to calculate insurance premiums within the district. Ratings range from 1 to 10. Class 1 generally represents superior property fire protection, and Class 10 indicates that the area's fire-suppression program does not meet ISO's minimum criteria.

The PPC ratings are calculated on the following factors:

- Fire alarm and communication systems, including telephone systems, telephone lines, staffing, and dispatching systems;
- The fire department, including equipment, staffing, training, and geographic distribution of fire companies; and,
- The water-supply system, including the condition and maintenance of hydrants, and a careful evaluation of the amount of available water compared with the amount needed to suppress fires.

ISO Rating

The Insurance Services Office (ISO) Public Protection Classification Program currently ranges ratings in Glenn County from FOUR to NINE on a scale of 1 to 10, with 1 being the highest possible protection rating and 10 being the lowest. The ISO rating measures individual fire protection agencies against a Fire Suppression Rating Schedule, which includes such criteria as facilities and support for handling and dispatching fire alarms, first-alarm response and initial attack, and adequacy of local water supply for fire-suppression purposes. The lower ratings generally occur in areas that are not served by a public water system, areas with insufficient equipment, or areas with inadequate water flow capacity.

District Profiles

ELK CREEK FIRE PROTECTION DISTRICT

The Elk Creek Fire Protection District is located at 3288 Road 308 outside Elk Creek. The Elk Creek Fire Protection District provides fire protection services to the Mendocino National Forest and the

surrounding rural area within western/central Glenn County. The CDF Tehama-Glenn unit operates out of the Elk Creek fire station and assists with emergency medical services, grass and range fires, Mendocino National Forest fires and structural fire response in western Glenn County.

GLENN-CODORA FIRE PROTECTION DISTRICT

The Glenn-Codora Fire Protection District, located at 1516 Highway 45 in Glenn, provides fire protection and emergency response services to the Glenn community. It's boundaries generally run parallel to the southern portion of the Sacramento River. In addition to responding to fires, the Glenn-Codora Fire Protection District also responds to medical emergencies, motor vehicle accidents, and other hazards. It is staffed entirely of volunteer firefighting and non-firefighting support personnel.

GLENN-COLUSA FIRE PROTECTION DISTRICT

The District provides services to a small sparsely populated area between the Sacramento River and Butte Creek at the southeastern corner of Glenn County. The District protects 28 square miles in Colusa County and 68 square miles in Glenn County. The fire station is located at 8282 State Highway 162 in Butte City, about four miles into Glenn County from the border with Colusa County. Development in this area is limited by flood hazards, poor access, and a lack of urban services.

KANAWHA FIRE PROTECTION DISTRICT

The Kanawha Fire Protection District is located 1709 Co Rd. outside the City of Willows. The Kanawha Fire Protection District covers the largest, central-most portion of Glenn County, east of the City of Willows. The District is staffed completely by volunteer firefighting and non-firefighting support personnel.

INDIAN VALLEY-BEAR VALLEY FIRE PROTECTION DISTRICT

The Bear Valley - Indian Valley Fire Protection District is a volunteer fire department serving unincorporated areas of Colusa and Glenn Counties. The district extends approximately seven miles north into Glenn County and the District encompasses approximately 60 square miles south into Colusa County where the fire stations are located. The District's primary role is to provide support in the event of structural fires, but the District also provides occasional support to the CDF in fighting grass or range fires. The District maintains two fire stations, the main station in Stonyford and a smaller station at Century Ranch (Ladoga).

The District has mutual aid agreements with the Elk Creek Fire Protection District in Glenn County, the USDA Forest Service, the California Division of Forestry and Fire Protection and the other fire protection districts in Colusa County.

ORD FIRE PROTECTION DISTRICT

The Ord Fire Protection District is located at 3221 CA-45 in Glenn. The Ord Fire Protection District covers the eastern portion of Glenn County surrounding the community of Ordbend. The District is

3.13 PUBLIC SERVICES AND RECREATION

staffed completely by volunteers and is equipped with three water pumpers, two water tankers, two grass rigs, one equipment truck and two ambulances.

ARTOIS FIRE PROTECTION DISTRICT

The Artois Fire Protection District is located at 740 Main in Artois. The Artois Fire Protection District consists of the area between the City of Orland and the City of Willows in unincorporated Glenn County. The District is staffed completely by volunteers and includes both firefighting and non-firefighting support personnel.

BAYLISS FIRE PROTECTION DISTRICT

The Bayliss Fire Protection District is located at 2593 County Road in Glenn. The Bayliss Fire Protection district is located on the eastern portion of Glenn County, along the Sacramento River and consists of volunteer firefighting and non-firefighting support personnel.

HAMILTON CITY FIRE PROTECTION DISTRICT

The Hamilton City Fire Department, located in Hamilton City at 420 1st Street, provides fire protection and emergency response services to the Hamilton City community and surrounding area. In Hamilton City, the fire department is staffed by one full-time paid firefighter, thirty part-time paid firefighters, five non-firefighting paid staff, and six non-firefighting volunteers. The District also provides emergency medical services to the communities of Hamilton City.

CAPAY FIRE PROTECTION DISTRICT

The Capay Fire Department, located a few miles northeast of Orland in Tehama County at 50 4th Avenue, provides fire protection and emergency response services to the Orland and Capay community. The district is located in the Northeast corner of Glenn County and extends several miles into Tehama county along the Sacramento River.

ORLAND RURAL FIRE PROTECTION DISTRICT

The Orland Fire Protection District is located at 810 5th street in the City of Orland. The Orland Rural Fire Protection District includes the area around the City of Orland in unincorporated Glenn County. The Orland Rural Fire Protection District utilizes the Orland Fire Department station which is responsible for the emergency response activities for the City of Orland and surrounding communities. 50 volunteers train weekly and respond as needed daily to emergency calls of approximately 800 per year. The District and the City both provide equipment, materials and manpower through the Orland Volunteer Fire Department.

WILLOWS RURAL FIRE PROTECTION DISTRICT

The Willows Rural Fire Protection District is located at 445 South Butte Street in the City of Willows. The Willows Rural Fire Protection District includes the area around the City of Willows in unincorporated Glenn County; which has a population of approximately 3,000, and covers approximately 78 square miles. The Willows Rural Fire Protection District utilizes the Willows Fire

Department station which is responsible for the emergency response activities for the City of Willows and surrounding communities. They offer a vast range of emergency services, public relations and fire safety education. Response times of the Willows Fire Department average 4 minutes per call. The ISO rating is 4 within the City of Willow and 6 outside the city limits, within the rural fire protection district. In addition to fire service, Fire investigation is a vital function of the Willows Fire Department. Several members of the Willows Fire Department have received specialized training in fire origin and cause determination and are members are part of the Glenn County Bomb and Arson team. All fires are investigated to determine their cause and origin and a detailed incident investigation report is then prepared. These finding are then used in the public education program to help with the prevention of future fires.

Office of Emergency Services

The Glenn County Office of Emergency Services (OES) is the single coordinating center for major emergency activities and integrates with all response agencies within the County. In cooperation with others, OES maintains and oversees countywide disaster and emergency preparedness, emergency notification system, public safety, volunteer programs, and provides training for first responders, businesses, and other governmental agencies.

POLICE PROTECTION SERVICES

The unincorporated areas of Glenn County receive general public safety and law enforcement services from the Glenn County Sheriff's Department. The Sheriff's Department also operates the County Jail, Dispatch, County Coroner and the County Office of Emergency Services (OES). The Glenn County Sheriff's office operates out of its headquarters located at 543 W. Oak Street, Willows and the jail is located adjacent at 141 S. Lassen Street, Willows. The Sheriff's Department is responsible for all law enforcement patrol services throughout all areas of the unincorporated County.

The municipal police department serves the City of Orland, while the City of Willows contracts law enforcement services through the Glenn County Sheriff's Office. Both cities use the county jail for all detentions. Since many law enforcements matters cross jurisdictional lines, the municipal police forces work closely with the Glenn County Sheriff's Department. The Sheriff's Department also provides 24-hour dispatching services for the Orland police department. The County Sheriff's Department and the police forces of the City of Orland often work in concert for search and rescue efforts.

Within the Mendocino National Forest, the Forest Service has shared law enforcement responsibilities with local law enforcement agencies. The jurisdiction of the Forest Service includes misdemeanor resource codes, felony narcotics, arson, property theft, and public protection when life or property are threatened. Serious law enforcement problems within the Forest include drug and alcohol related crimes, vandalism and property theft, timber trespass, marijuana cultivation and public and employee safety. The Forest Service currently maintains a Cooperative Law Enforcement Agreement with the Glenn County Sheriff's Office. The Fish and Game Warden patrols the National Wildlife Refuges. The California Highway Patrol polices State Highways 162, 45, and 32, Interstate

3.13 PUBLIC SERVICES AND RECREATION

Route 5, and all unincorporated county roadways and maintains an office at 464 N Humboldt Avenue in Willows.

Organization

The Glenn County Sheriff's office is composed of three (3) divisions: Operations, Support Services, and Jail. The Sheriff and Undersheriff are responsible for the administration and oversight of the division commanders.

OPERATIONS DIVISION

The Operations Division consist of Uniformed Patrol and Special Operations, which includes Traffic, Boating Enforcement, Police Aides/Assistants, Civil Unit, Court Security Unit, and Animal Control Unit.

SUPPORT SERVICES DIVISION

The Support Services Division consist of the major crimes unit, narcotics unit (G1.N.T.F.), evidence and property management, internal affairs, emergency services, volunteer services, communications, records, and clerical.

JAIL DIVISION

The Jail Division consist of the Glenn County Jail facility and transportation unit.

CRIMES BY CATEGORY IN GLENN COUNTY

Statistics on the number of crimes by category of crime in Glenn County during each year from 2016 to 2019, as reported by the Federal Bureau of Investigation (FBI) Criminal Justice Information Services Division, are shown in Table 3.13-1 below.

TABLE 3.13-1: GLENN COUNTY SHERIFF'S DEPARTMENT CRIME STATISTICS (2016-2019)

<i>CATEGORY/CRIME</i>	<i>2016</i>	<i>2017</i>	<i>2018</i>	<i>2019</i>
Total Violent Crimes	34	81	55	55
Homicide	1	0	1	2
Rape	0	5	9	8
Robbery	1	6	7	8
Assault	32	70	38	37
Total Property Crimes	159	235	444	362
Burglary	60	100	132	86
Motor Vehicle Theft	3	12	36	37
Larceny	96	123	276	239
Arson	1	2	3	3

SOURCE: FBI CRIME STATISTICS; [HTTPS://UCR.FBI.GOV/](https://ucr.fbi.gov/).

As shown in the table, the majority of crimes committed in Glenn County consist of property crimes, primarily motor vehicle theft. Additionally, in 2017, there were no homicides reported in Glenn County.

PARKS AND RECREATIONAL FACILITIES

Types of Parks

Regional parks: Regional parks are generally 100+ acres (with exceptions based on use characteristics, special features, etc.). Parks of less than 100 acres may still be determined regional in nature based on other criteria. Large tracts of land are often necessary to provide natural resource-based recreation opportunities and protect the natural resources for long-term use for outdoor recreation. Regional parks provide outdoor recreation facilities and activities that are primarily natural resource based (camping, picnicking, hiking, swimming, boating, canoeing, fishing, nature study).

Glenn County has five Regional Parks/ Facilities totaling approximately 281 acres.

Community parks: Community parks are generally 15 to 25 acres in size, and include areas for active sports as well as space for family and group activities, such as picnicking. Community parks are larger in size than neighborhood parks and serve to fulfill the active and passive recreational needs of multiple neighborhoods. The community park serves the needs of local neighborhoods by providing a close to home site for more active recreation that is not typically suitable or physically possible in a neighborhood park (i.e., formal sports fields and courts with night lighting). Community parks and sports parks are where most organized activities provided by the Parks and Recreation Department and various league sports are intended to occur.

Glenn County has one developed Community Park site, totaling approximately 3.4 acres.

Special use parks: The Special Use Parks allow for flexibility in providing recreational resources throughout the park space network. This classification is intended to accommodate special circumstances, unique site characteristics, etc. in park, trail, and recreation resources. These types of resources add diversity to the park network and accommodate a variety of non-traditional recreation amenities beyond the standard neighborhood, and community, park classifications.

Glenn County has four Specialty Parks, located within the city limits of Willows and Orland, totaling approximately 5.19 acres.

Local Recreation Areas and Parks

City of Orland

The City of Orland Recreation Department is responsible for the operation of six existing parks within the City of Orland, as well as organizing various city-wide recreational activities that are offered on a year-around basis to city and county residents. The City of Orland has an extensive network of local park facilities. The amenities at the City of Orland parks include BBQ facilities, swimming pools, picnic tables, playgrounds, tot lots, trails, baseball fields, and basketball courts.

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City of Willows

The City of Willows Recreation Department is responsible for the operation of four parks and recreation facilities within the City of Willows, as well as organizing various city-wide recreational activities that are offered on a year-around basis to city and county residents.

Glenn County

The Glenn County General Services Department operates ten parks encompassing approximately 280 acres. Table 3.13-2 lists park and recreation facilities in Glenn County.

Table 3.13-2: Summary of Parks and Recreation Facilities

<i>PARK/FACILITY NAME</i>	<i>ACREAGE</i>	<i>DEVELOPED ACRES</i>	<i>PARK TYPE</i>
Ord Bend Park & Boat Ramp	12	12	Regional
Butte City Boat Ramp	1.2	1.2	Regional
Walk Creek Park	40	0	Regional
Site 48	28	0	Regional
Site 21 – Princeton Unit of the Sacramento River Wildlife Area	200	2	Regional
Hamilton City Park	3.4	3.4	Community
Monroeville Cemetery	>1.0	>1.0	Special Use
Orland Memorial Park	2.0	2.0	Special Use
Willows Memorial Hall	1.44	1.44	Special Use
Willows Memorial Park	0.75	0.75	Special Use
Total	281.2	23.79	-

SOURCE: GLENN COUNTY GENERAL SERVICES, 2019

On a regional scale, there are currently four federal park facilities within the County, including Mendocino National Forest and the Sacramento National Wildlife Refuge. The Forest offers a variety of recreational opportunities both in Glenn County and in adjacent counties, including camping, backpacking, boating, fishing, hunting, and off-highway vehicle use. There are two designated wildernesses: the 100,600-acre Yolla Bolly Middle Eel Wilderness, and the Snow Mountain Wilderness with approximately 37,200 acres.

The Sacramento National Wildlife Refuge is located in the southeastern portion of the county adjacent to Interstate 5, of which approximately 8,555 acres located in Glenn County. The facility provides a wintering area for migratory waterfowl.

SCHOOLS

Glenn County Office of education provides school services for grades K through 12 within the communities of Orland, Willows, Hamilton City, Elk Creek, and Princeton and serves more than 1,500 students. Within Glenn County, there are four schools serving elementary age and middle school students (grades K-8), two K-6 school, one 5-6 school, one high school (grades 9-12), two 7-12, and two vocational high schools (grades 10-12). Table 3.13-3 lists public schools in Glenn County, the grades served by each school, the location, and the most recent enrollment for each school.

As shown in Table 3.13-3, the schools in the county had a total enrollment of approximately 1,505 students, of which 1,105 were enrolled in elementary and middle school (grades K – 8) and 400 were enrolled in high school (grades 9 – 12) or Junior/Senior High school (grades 7 – 12).

County-wide school districts had a total enrollment of 1,507 students for the 2018-2019 school year. Table 3.13-4 provides a summary of the public-school enrollment by grade within Glenn County.

Table 3.13-3: Public Schools Serving Glenn County

SCHOOL	GRADES SERVED	ADDRESS	ENROLLMENT 2018-2019 SCHOOL YEAR
<i>ELEMENTARY AND MIDDLE SCHOOLS</i>			
Hamilton Elementary School	K-8	277 Capay Ave, Hamilton City	415
Lake Elementary School	K-8	4672 County Rd N, Orland	185
Capay Joint Union Elementary School	K-8	7504 Cutting Ave, Orland	199
Plaza Elementary School	K-8	7322 Co Rd 24, Orland	207
Princeton Elementary School	K-6	438 Norman Rd, Princeton	63
Elk Creek Elementary School	K-6	3430 Co Rd 309, Elk Creek	31
Indian Valley Elementary	5-6	3430 Co Rd 309, Elk Creek	5
Total			1,105
<i>HIGH SCHOOLS</i>			
Bidwell Point Highschool	10-12	3430 Sanhedrin Rd, Elk Creek	2
Elk Creek Jr/Sr Highschool	7-12	3430 Co Rd 309, Elk Creek	24
Ella Barkley Highschool	10-12	300 CA-32, Hamilton City	9
Hamilton Highschool	9-12	620 Canal St, Hamilton City	290
Princeton Jr/Sr Highschool	7-12	252 Princeton Rd, Colusa, CA	77
Total			402

SOURCE: CALIFORNIA DEPARTMENT OF EDUCATION EDUCATIONAL DEMOGRAPHICS UNIT ENROLLMENT FOR 2018-19

DISTRICT	GRADE LEVEL													TOTAL 2018-2019
	K	1	2	3	4	5	6	7	8	9	10	11	12	
Capay Joint Union Elementary	22	17	23	19	22	29	19	24	24	0	0	0	0	199
Hamilton Unified	62	41	39	47	42	60	41	48	35	78	80	51	90	713
Lake Elementary	20	20	19	21	19	21	21	24	20	0	0	0	0	185
Plaza Elementary	22	22	22	23	24	24	22	23	25	0	0	0	0	207
Princeton Joint Unified	12	10	9	5	4	14	9	16	11	13	7	15	0	140
Stony Creek Joint Unified	8	2	7	8	6	2	3	4	6	3	6	3	4	62
Total	194	142	150	153	149	177	131	160	150	117	113	107	200	1,507

SOURCE: CALIFORNIA DEPARTMENT OF EDUCATION EDUCATIONAL DEMOGRAPHICS UNIT ENROLLMENT FOR 2018-19

OTHER PUBLIC FACILITIES

Library Services

Glenn County has two libraries, Elk Creek Library is located 120 Church Street in Elk Creek; and Bayliss Library, located at 7830 County Road 39 near Glenn. The libraries offer a circulating collection of books, magazines, videos, audiobooks, e-books, youth programs, computer access, wifi, interlibrary loan, and reference services for communities within the county.

Senior Center

The Glenn County Seniors Center, located at 19 Walker Street in Orland, is a multi-purpose Senior Center serving nutritious meals in group and home settings with access to supportive services for seniors 60 years of age and older throughout Glenn County. There are no membership fees to participate at the center.

Health Care

Health care facilities within Glenn County encompass Glenn General Hospital located in the City of Willows, Willow View Convalescent Center, residential care facilities, and a senior citizen housing complex as well as private physicians and other medical practitioners.

Glenn General Hospital, a County operated hospital, provides acute care service and is licensed for 80 beds. However, only thirty-two beds are currently available for use. The hospital is located at 1133 West Sycamore in the City of Willows. Glenn General Hospital offers 24-hour emergency care, outpatient care, general surgical care, outpatient surgical care, and minor heart surgery. The hospital sponsors an orthopedic clinic, a urology clinic, a cardiology clinic, podiatry clinic, gastroenterology clinic, neurology clinic, and obstetric-gynecology clinic.

Residents typically travel to other facilities, such as Enloe Hospital in Chico, for certain specialized services including burns, major heart surgery, and severe trauma and psychiatric care.

The Glenn County Public Health Department is organized under the Glenn County Health Services Agency and provides maternal and child health care programming, California Children's Services, child health and disability programs, vaccinations and general public health nursing to the community. In addition, the Public Health Department also provides Environmental Health services to Glenn County citizens comprised of water system reviews, vector control, restaurant checks and consultation.

Alcohol & drug programs are also organized under the County Health Service Agency and provide residential treatment, out-patient counseling, perinatal programs and community education and information. Mental Health programs offered by the same agency provide services to citizens of all ages who have a demonstrated mental disorder or affective disorder. Services include but are not limited to in-patient services, residential services, out-patient counseling, medication monitoring and community education and referral.

3.13.2 REGULATORY SETTING

Fire Protection and Emergency Response

CALIFORNIA OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION

In accordance with California Code of Regulations Title 8 Sections 1270 "Fire Prevention" and 6773 "Fire Protection and Fire Equipment" the California Occupational Safety and Health Administration (Cal/OSHA) has established minimum standards for fire suppression and emergency medical services. The standards include, but are not limited to, guidelines on the handling of highly combustible materials, fire hose sizing requirements, restrictions on the use of compressed air, access roads, and the testing, maintenance, and use of all firefighting and emergency medical equipment.

EMERGENCY RESPONSE/EVACUATION PLANS

The State passed legislation authorizing the Office of Emergency Services (OES) to prepare a Standard Emergency Management System (SEMS) program, which sets forth measures by which a jurisdiction should handle emergency disasters. Non-compliance with SEMS could result in the State withholding disaster relief from the non-complying jurisdiction in the event of an emergency disaster.

FIRE PROTECTION

The California Fire Code contains regulations relating to construction and maintenance of buildings and the use of premises. Topics addressed in the Code include 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, industrial processes, and many other general and specialized fire safety requirements for new existing buildings and premises.

CALIFORNIA FIRE CODE (CFC)

The CFC with the State of California Amendments contains regulations relating to construction, maintenance, and use of buildings. Topics addressed in the California Fire Code include fire department access, fire hydrants, automatic sprinkler systems, fire alarm systems, fire and explosion hazards safety, hazardous materials storage and use, provisions intended to protect and assist fire responders, industrial processes, and many other general and specialized fire-safety requirements for new and existing buildings and the surrounding premises. The Fire Code contains specialized technical regulations related to fire and life safety.

CALIFORNIA HEALTH AND SAFETY CODE

State fire regulations are set forth in Sections 13000 et seq. of the California Health and Safety Code. This includes regulations for building standards (as also set forth in the California Building Code), fire protection and notification systems, fire protection devices such as extinguishers and smoke alarms, high-rise building and childcare facility standards, and fire suppression training.

3.13 PUBLIC SERVICES AND RECREATION

COUNTY EMERGENCY RESPONSE/EVACUATION PLANS

Glenn County is responsible for emergency response and evacuation plans within the unincorporated areas of the county. The Glenn County Sheriff's Department operates the County Office of Emergency Services.

GLENN COUNTY CODE

The Glenn County Code, Master Fee Schedule includes development impact fees to fund public facilities, including fire and police services.

Parks and Recreation

QUIMBY ACT

The Quimby Act (California Government Code Section 66477) states that "the legislative body of a city or county may, by ordinance, require the dedication of land or impose a requirement of the payment of fees in lieu thereof, or a combination of both, for park or recreational purposes as a condition to the approval of a tentative or parcel map." Requirements of the Quimby Act apply only to the acquisition of new parkland and do not apply to the physical development of new park facilities or associated operations and maintenance costs. The Quimby Act seeks to preserve open space needed to develop parkland and recreational facilities; however, the actual development of parks and other recreational facilities is subject to discretionary approval and is evaluated on a case-by-case basis with new residential development.

MENDOCINO NATIONAL FOREST

The largest designated recreation area in Glenn County is the Mendocino National Forest, managed by the U.S. Forest Service. A variety of recreational opportunities exist within the forest: camping, hiking, backpacking, boating, fishing, nature study, photography, and off-highway vehicle travel. The Forest is a "working forest," so activities such as logging and grazing do occur. The U.S. Forest Service seeks to manage the variety of uses to ensure conservation of the forest resources.

Many of the developed recreation sites within the Mendocino National Forest were built 30-50 years ago. Since then, visitor preferences have changed and some facilities are in poor condition. In 2007, the U.S. Forest Service completed a 5-year analysis of recreational facilities and developed a list of proposed changes. These changes include fee increases for various facilities, removal of amenities, and replacement of existing amenities.

Plaskett Meadows, located within the Mendocino National Forest, is a popular spot for outdoor recreation and camping activities within Glenn County. The campground at Plaskett Meadows is in an area of mixed species of pine and fir. There are two small lakes for trout fishing, three to four acres each. No motorized boats allowed.

SACRAMENTO RIVER STATE RECREATION AREA (SRA)

The Sacramento River SRA provides hundreds of acres of riverfront recreation at the east side of Glenn County. The park features boat ramps, picnic facilities, trails, and camping. Fishing and boating are popular activities at this park. Though the Ord Bend County Park and Butte City Launch Facility are the only public boat launch facilities in the area of the Sacramento River within Glenn County, people enter the river at several private sites. Much of the land adjacent to the Sacramento River is privately owned agricultural land.

Boating is a popular activity on the Sacramento River. The boating season generally begins in April and continues until winter weather sets in. A cleared navigational channel is maintained between Glenn County and Sacramento. This channel allows boats up to 40 feet in length to travel between Glenn County and Sacramento. There are several areas along the river for camping and houseboat rentals, most of which are outside the County of Glenn. A river cruise from the mouth of the Sacramento River near Antioch to Glenn County is approximately 145 miles and takes approximately 10-12 hours.

The river is generally not visible to motorists on SR 45, which parallels the river. However, Butte City and Hamilton City offer unique river access and views from river crossing bridges.

Fishing: Fishing is plentiful in the Sacramento River. Salmon, steelhead trout, and striped bass are the most common fish in this area. People fish both from boats and the banks of the Sacramento River. The Mendocino National Forest offers 85 miles of trout streams. Big Stony Creek and Little Stony Creek and their tributaries are the primary fishing areas. The streams are occasionally stocked with trout by the California Department of Fish and Game. Letts Lake, a 35-acre lake stocked with trout and bass, is another popular fishing spot.

Hunting: More ducks and geese winter in the Sacramento Valley than any other area of the Pacific Flyway. Numerous wildlife refuges help sustain the birds in Glenn County through the fall and winter by providing food and sanctuary. Ducks generally arrive in August, and geese generally arrive in late November. Public hunting is permitted in areas of the refuges during the appropriate season, but hunters must obtain a permit from one of the check stations.

In addition to providing habitat for ducks and geese, the refuges also attract swans, marsh and shore birds, upland birds, and small mammals. Nearly 200 species of birds have been recorded in the area, making Glenn County a popular location for bird watchers.

There are also a number of commercial hunting clubs and cooperatives operated by community organizations throughout Glenn County. Hunting camps are operated on private agricultural land by special use permit.

GLENN COUNTY CODE

The Glenn County Code, *Master Fee Schedule* includes development impact fees to fund public facilities, including parks.

Schools

CALIFORNIA CODE OF REGULATIONS

The California Code of Regulations, Chapter 4.9, Payment of Fees, Charges, Dedications, or Other Requirements Against a Development Project. *Section 65995-65998 (h)* The payment or satisfaction of a fee, charge, or other requirement levied or imposed pursuant to Section 17620 of the Education Code in the amount specified in Section 65995 and, if applicable, any amounts specified in Section 65995.5 or 65995.7 are hereby 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, or any change in governmental organization or reorganization as defined in Section 56021 or 56073, on the provision of adequate school facilities.

CALIFORNIA DEPARTMENT OF EDUCATION

The California Department of Education (CDE) School Facilities Planning Division (SFPD) prepared a School Site Selection and Approval Guide that provides criteria for locating appropriate school sites in the State of California. School site and size recommendations were changed by the CDE in 2000 to reflect various changes in educational conditions, such as lowering of class sizes and use of advanced technology. The expanded use of school buildings and grounds for community and agency joint use and concern for the safety of the students and staff members also influenced the modification of the CDE recommendations.

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

Certain health and safety requirements for school site selection are governed by state regulations and the policies of the SFPD relating to:

- Proximity to airports, high-voltage power transmission lines, railroads, and major roadways;
- Presence of toxic and hazardous substances;
- Hazardous facilities and hazardous air emissions within one-quarter mile;
- Proximity to high-pressure natural gas lines, propane storage facilities, gasoline lines, pressurized sewer lines, or high-pressure water pipelines;
- Noise;
- Results of geological studies or soil analyses; and
- Traffic and school bus safety issues.

THE KINDERGARTEN-UNIVERSITY PUBLIC EDUCATION FACILITIES BOND ACT OF 2002 (PROP 47)

This act was approved by California voters in November 2002 and provides for a bond issue of \$13.05 billion to fund necessary education facilities to relieve overcrowding and to repair older schools. Funds will be targeted at areas of greatest need and must be spent according to strict accountability measures. Funds will also be used to upgrade and build new classrooms in the California Community

Colleges, the California State University, and the University of California in order to provide adequate higher education facilities to accommodate growing student enrollment.

LEROY F. GREENE SCHOOL FACILITIES ACT OF 1998 (SB 50)

The “Leroy F. Greene School Facilities Act of 1998,” also known as Senate Bill 50 or SB 50 (Chapter 407, Statutes of 1998), governs a school district’s authority to levy school impact fees. This comprehensive legislation, together with the \$9.2 billion education bond act approved by the voters in November 1998 known as “Proposition 1A”, reformed methods of school construction financing in California. SB 50 instituted a new school facility program by which school districts can apply for state construction and modernization funds. It imposed limitations on the power of cities and counties to require mitigation of school facilities impacts as a condition of approving new development and provided the authority for school districts to levy fees at three different levels:

- Level I fees are the current statutory fees allowed under Education Code 17620. This code section provides the basic authority for school districts to levy a fee against residential and commercial construction for the purpose of funding school construction or reconstruction of facilities. These fees vary by district for residential construction and commercial construction and are increased biannually.
- Level II fees are outlined in Government Code Section 65995.5, allowing school districts to impose a higher fee on residential construction if certain conditions are met. These conditions include having a substantial percentage of students on multi-track year-round scheduling, having an assumed debt equal to 15–30 percent of the district’s bonding capacity (percentage is based on revenue sources for repayment), having at least 20 percent of the district’s teaching stations housed in relocatable classrooms, and having placed a local bond on the ballot in the past four years which received at least 50 percent plus one of the votes cast. A Facility Needs Assessment must demonstrate the need for new school facilities for unhoused pupils is attributable to projected enrollment growth from the construction of new residential units over the next five years.
- Level III fees are outlined in Government Code Section 655995.7. If State funding becomes unavailable, this code section authorizes a school district that has been approved to collect Level II fees to collect a higher fee on residential construction. This fee is equal to twice the amount of Level II fees. However, if a district eventually receives State funding, this excess fee may be reimbursed to the developers or subtracted from the amount of state funding.

GLENN COUNTY CODE

The Glenn County Code, Master Fee Schedule includes development impact fees to fund public facilities.

3.13.3 IMPACTS AND MITIGATION MEASURES

THRESHOLDS OF SIGNIFICANCE

Consistent with Appendix G of the CEQA Guidelines, the proposed project will have a significant impact on public services and recreation if it would result in:

- Substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:
 - Fire Protection;
 - Police Protection;
 - Schools;
 - Parks; and
 - Other public facilities.
- An increase in 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; or
- If it includes recreational facilities or requires the construction or expansion of recreational facilities which might have an adverse physical effect on the environment.

IMPACTS AND MITIGATION MEASURES

Impact 3.13-1: General Plan implementation could result in adverse physical impacts on the environment associated with the need for new governmental facilities or the need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts and the provision of public services (Less than Significant)

Development accommodated under the General Plan would result in additional residents and businesses in the County, including new residential, industrial, office, and commercial uses. As described in Chapter 2.0, buildout of the General Plan could yield a total of up to 6,583 housing units, a population of 17,089 people, 3,482,616 square feet of non-residential building square footage, and 4,949 jobs within the Planning Area. As shown in Table 2.0-3 of Chapter 2.0, this represents development growth over existing conditions of up to 773 new housing units, 2,172 people, 531,250 square feet of new non-residential building square footage, and 745 jobs.

Development and growth facilitated by the General Plan would result in increased demand for public services, including fire protection, law enforcement, schools, parks, libraries, and other public and governmental services. The General Plan includes policies and actions to ensure that public services are provided at acceptable levels and that the County will maintain and implement public facility

master plans, in collaboration with appropriate outside service providers and other agencies, to ensure compliance with appropriate regional, state, and federal laws and to provide efficient public facilities and services to Glenn County.

As the demand for services increases, there will likely be a need to address acceptable service ratios, response times, and other performance standards. New or expanded service structures (e.g., offices, maintenance and administrative buildings, schools, parks, fire facilities, libraries, etc.) will be needed to provide for adequate staffing, equipment, and appropriate facilities to serve growth in the County. Existing facilities may be expanded at their current location. New facilities may also be constructed. The Public Facilities (PF) land use designations would accommodate the majority of new public facilities necessary to provide community services. There would likely be environmental impacts associated with the construction or expansion of the facilities needed to provide public services.

The General Plan does not propose or approve actual development projects, or the physical expansion of public facilities. As future development and infrastructure projects (including new governmental facilities) are considered by the County, each project will be evaluated for conformance with the General Plan, Municipal Codes, and other applicable regulations. Such development and infrastructure projects would also be analyzed for potential environmental impacts, consistent with the requirements of CEQA. Any future expansion of public facilities required by growth in the County would be required to be reviewed for site-specific impacts.

As previously stated, new facilities will be needed to serve growth contemplated in the General Plan. The environmental effect of providing the public services is associated with the physical impacts of providing new and expanded facilities. The specific impacts of providing new and expanded facilities cannot be determined at this time, as the General Plan does not propose or authorize development nor does it designate specific sites for new or expanded public facilities. However, the facilities would be primarily provided on sites with land use designations that allow such uses and the environmental impacts of constructing and operating the governmental facilities would likely be similar to those associated with new development, redevelopment, and infrastructure projects under the General Plan. These impacts are described in the relevant chapters (Chapters 3.1 through 3.16, and 4.0) of this Draft EIR. Any future development under the General Plan would be required to comply with regulations, policies, and standards included in the General Plan, and would be subject to CEQA review as appropriate.

The General Plan includes a range of policies and actions (listed below) to ensure that public services adequately accommodate growth, maintain community services and facilities, and that new development funds its fair share of services. Therefore, impacts related to the provisions and need for public facilities are **less than significant**.

GENERAL PLAN POLICIES AND ACTIONS THAT MINIMIZE POTENTIAL IMPACTS

COMMUNITY SERVICES AND FACILITIES ELEMENT POLICIES

CSF 5-1: Continue to support the County's volunteer fire forces and offer incentives for continued participation.

3.13 PUBLIC SERVICES AND RECREATION

CSF 5-2: Strive to maintain adequate fire services and law enforcement levels throughout the county.

CSF 5-3: Determine the impact proposed development will have on the provision of fire protection and law enforcement services, and ensure that the established level of service is maintained.

CSF 5-4: Establish and prioritize adequate funding and firefighting and law enforcement personnel for areas targeted for growth.

CSF 5-5: Regularly review and evaluate fire district boundaries to determine if the existing service areas are the most efficient and cost-effective.

CSF 5-6: Coordinate with fire districts to ensure new development pays its fair share for the provision of new fire stations, equipment, personnel and fire suppression improvements necessary to provide adequate fire protection services for new development.

CSF 5-7: The fire protection districts shall review all development proposals within their district and recommend measures to reduce the potential for fire risk.

CSF 5-8: Support the use of mutual aid agreements or memoranda of understanding for structural as well as wildland protection in areas currently under California Department of Forestry and U.S. Forest Service Jurisdiction.

CSF 5-9: Require that all community water systems serving new development meet or exceed Glenn County minimum standards for provision of water for peak-load demands and required fire flows.

CSF 5-10: Require that all community water systems serving new development meet or exceed Glenn County minimum standards for provision of water for peak-load demands and required fire flows.

CSF 5-11: Recognize the autonomy of individual fire districts within the county.

CSF 5-12: Coordinate with the California Highway Patrol to assist with traffic enforcement services on County roadways.

CSF 5-13: Locate new essential public facilities, such as fire departments, sheriff's substations, and emergency evacuation centers outside of High and Very High Fire Hazard Zones.

CSF 6-1: Recognize that some of the recreational resources available to County residents may be owned and/or operated by other entities, including the incorporated cities, the State, and the Federal government, while still meeting the recreational needs of County residents.

CSF 6-2: Provide parks or recreation facilities that are safely accessible and prioritize the development of and access to these facilities in underserved areas of the community.

CSF 6-3: Maintain and enhance existing parks and recreation facilities to improve their usefulness, safety, and appearance.

CSF 6-4: Pursue partnerships with the private sector and nonprofit organizations to provide services and/or maintain and improve park and recreational facilities, wherever practical.

CSF 6-5: As mutually desired, pursue and encourage the joint-use of parks and recreation facilities owned and operated by school districts.

CSF 6-6: Ensure that community parks and recreational facilities have stable and self-sufficient funding resources.

CSF 6-7: Ensure that financial mechanisms are in place to develop parks and recreation facilities, as new residential development occurs.

CSF 6-8: Ensure access for disabled people is provided for park and recreation areas and facilities as appropriate.

CSF 6-9: Incorporate security measures such as adequate lighting, into park design and recreation facilities to promote public safety.

CSF 6-10: Strive to achieve a ratio of 5 acres of parkland for every 1,000 residents in the County.

CSF 7-1: Support high quality schools, libraries and community facilities to serve the needs of current and future residents.

CSF 7-2: Ensure that new growth and development participates in the provision and expansion of community services and facilities, and does not exceed County's ability to provide them.

CSF 7-3: Require new development to demonstrate that the community services and facilities within the county can accommodate the increased demand associated with the project.

CSF 7-4: Require new development to offset or mitigate impacts to community services and facilities to ensure that service levels for existing users are not degraded or impaired by new development.

CSF 7-5: Include school districts in the development review process for significant new residential development projects to identify potential impacts to school services and facilities.

CSF 7-6: As feasible, invest in new equipment and facilities for libraries based current and projected needs.

CSF 7-7: Encourage private donations and support from State funding for library operations, maintenance, renovation, equipment, and construction.

CSF 7-8: Consider the needs of seniors and people with disabilities when considering the construction or renovation of community facilities.

CSF 7-9: Encourage services and programs that meet the needs of seniors within the County, including supporting the senior centers, and programs that provide senior services.

3.13 PUBLIC SERVICES AND RECREATION

COMMUNITY SERVICES AND FACILITIES ELEMENT ACTIONS

Action CSF-5a: Continue to participate in mutual aid agreements with State and federal firefighting and law enforcement agencies.

Action CSF-5b: Continue to enforce the California Building Code and the California Fire Code to ensure that all construction implements fire-safe techniques, including fire resistant materials, where required.

Action CSF-5c: As part of the development review process for new projects, the County will refer applications to the local-serving Fire District, and Sheriff's Department for determination of the project's potential impacts on fire protection and law enforcement services.

Action CSF-5d: Maintain a public outreach campaign to generate interest in volunteer fire department opportunities.

Action CSF-6a: Consider adoption of a parks and recreation ordinance that would apply to new residential development. The ordinance should establish a parkland dedication requirement based on five acres of parkland per 1,000 residents. The program would require dedication of parkland and/or payment of in lieu fees, consistent with the requirements of the Quimby Act, based upon the residential density, park land cost, and other factors. If an in-lieu fee program is established, the fees should either be distributed to the applicable park district or agency (contingent on the district's or agency's use of these funds towards new parks or park expansions that serve the residents of the unincorporated area) or used by the County to provide facilities that serve the local and regional needs of County residents. Public land dedicated and/or fees collected pursuant to the Quimby Act may only be used for the purpose of developing new or rehabilitating existing park or recreational facilities.

Action CSF-6b: New development shall be required to construct on-site or off-site parks, or pay in-lieu park fees to mitigate park impacts to ensure the existing levels of services is maintained, but not to exceed five acres per 1,000 persons. Impact fee calculations and dedication requirements should be based on the existing level of service.

Action CSF-6c: Pursue all forms of possible funding, including Federal and State funding, private contributions, gifts and endowments, bond measures, and special districts, to assist in the acquisition, development and programming of park and recreation facilities.

Action CSF-7a: As part of the development review process, consult with school districts in the County to ensure that adequate school sites are provided and that affected schools will have adequate capacity to serve new development.

Action CSF-7b: Require new development to pay its fair share of the cost of new or expanded community services and facilities that are necessary to serve the new development project.

Action CSF-7c: Maintain and update the development fee program to ensure the impact fee system will defray the cost of developing public services and facilities.

Impact 3.13-2: General Plan implementation may result in adverse physical impacts associated with the deterioration of existing parks and recreation facilities or the construction of new parks and recreation facilities or expansion of facilities (Less than Significant)

Growth accommodated under the General Plan would include a range of uses that could increase the population of the county and also attract additional workers and tourists to the county. Such growth would result in increased demand for parks and recreation facilities. It is anticipated that over the life of the General Plan, use of parks, trails, and recreation facilities would increase, due to new residents and businesses. The additional demand on existing parks and recreational facilities would increase the need for maintenance and improvements. These improvements could have environmental impacts, although the exact impacts cannot be determined since the potential improvements are unknown.

The provision of new parks and recreation facilities would reduce the potential for adverse impacts and physical deterioration of existing parks and recreation facilities, by providing additional facilities to accommodate the demand for parks and recreation facilities. These new facilities would be provided at a pace and in locations appropriate to serve new development, as required to maintain the County adopted standards for park space acreage at five acres for every 1,000 residents (as identified by General Plan Policy CSF 6-10). Development under the General Plan would indirectly lead to the construction of new parks and recreation facilities to serve new growth and to meet existing parks and recreation needs. The General Plan supports the creation of new parks and recreation facilities, including new parks and trails, to accommodate a wide range of activities for all age groups. These new parks and recreation facilities would be spread throughout areas proximate to new development in and around existing neighborhoods. Community parks and trails would generally be accommodated in the Open Space/Public Lands (OSP), or Public Facilities (PF) Land use designations, however parks may also be accommodated under other land use designations including within residential neighborhoods and land uses. General Plan Policy CSF 6-10 establishes a countywide ratio of five acres of parkland per 1,000 residents. The Glenn County Parks Department currently operates ten parks encompassing approximately 280 acres, providing approximately 19 acres of parkland for every 1,000 people. When looking at developed park space the county currently has approximately 23.79 developed acres providing approximately 1.59 acres of developed parkland for every 1,000 people.

As shown in the Project Description (Table 2.0-3), the projected total buildout population (which includes existing plus projected population growth) is 17,089 people, which would result in a demand for additional developed parkland.

The proposed General Plan does not specifically propose any development projects, including parks. As a result, site-specific physical impacts of future park development and construction cannot be determined until future projects are brought forward for review. As future parks and recreation

3.13 PUBLIC SERVICES AND RECREATION

projects are considered by the County, each project will be evaluated for conformance with the General Plan, County Code, and other applicable regulations. Parks and recreation projects would also be analyzed for potential environmental impacts, consistent with the requirements of CEQA.

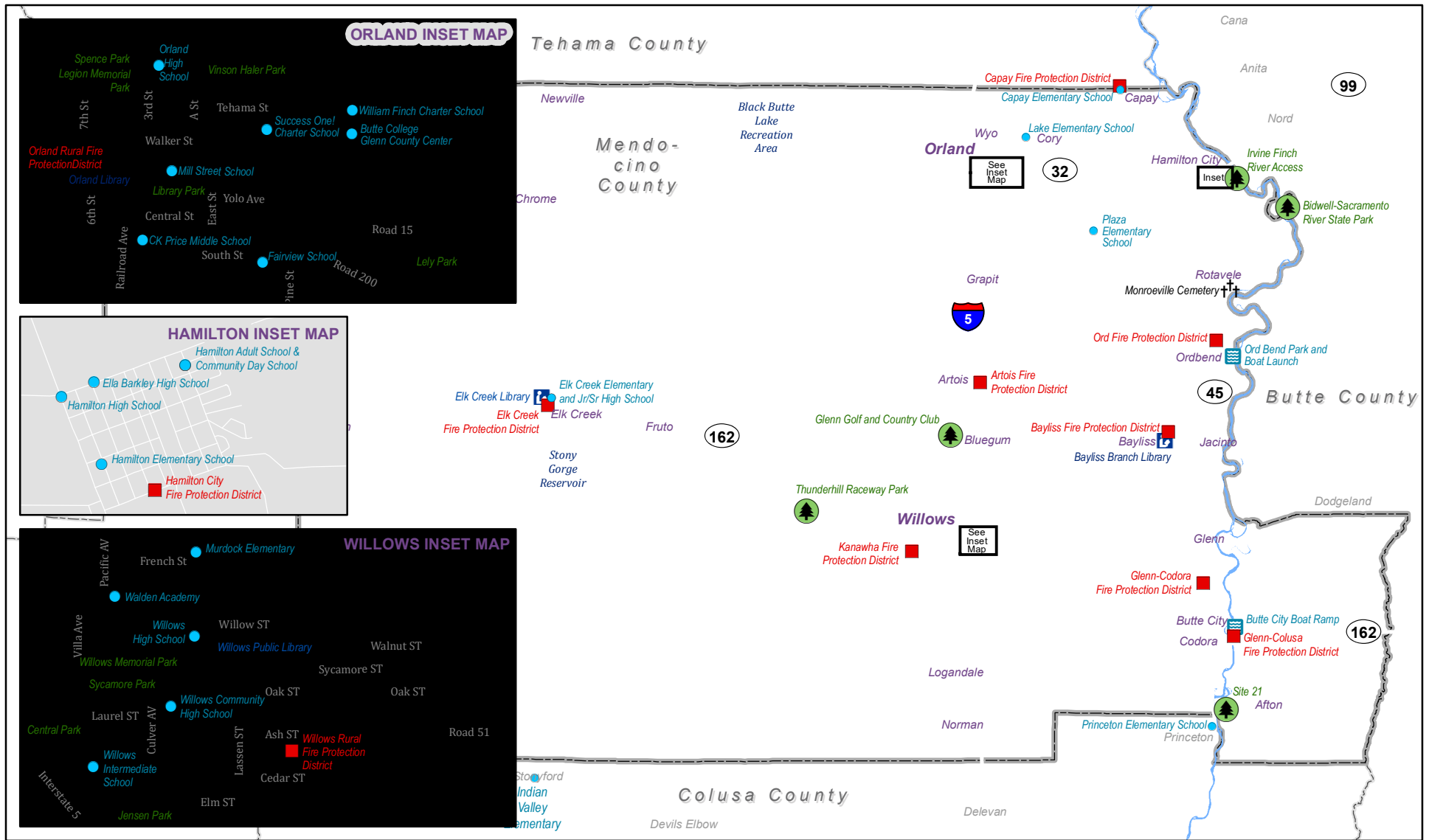
In addition to ensuring that new and expanded parks and recreation facilities are provided to accommodate new growth, the General Plan includes policies and actions to ensure that parks and recreation facilities are adequately maintained and improved to serve both existing and planned growth.

The proposed General Plan does not propose or approve any development nor does it designate specific sites for new or expanded parks and recreational facilities. The General Plan includes a range of policies and actions (listed below) to ensure that parks and recreational facilities are adequately funded, and that new development funds its fair share of services needed to meet General Plan objectives. New development is required to participate in the provision and expansion of public services, recreational amenities, and facilities, and is also required to demonstrate that the County's public services and facilities can accommodate the increased demand for said services and facilities associated with future projects during the entitlement process. Any new parks or recreational facilities that may be constructed in the future would be primarily provided on sites with land use designations that allow such uses and the environmental impacts of constructing and operating the parks and recreational facilities would likely be similar to those associated with new development, redevelopment, and infrastructure projects under the General Plan. These impacts are described in the relevant chapters (Chapters 3.1 through 3.16, and 4.0) of this Draft EIR. Any future development under the General Plan would be required to comply with regulations, policies, and standards included in the General Plan, and would be subject to CEQA review as appropriate.

Therefore, impacts related to the provisions and need for park and recreational facilities are **less than significant**.

GENERAL PLAN POLICIES AND ACTIONS THAT MINIMIZE POTENTIAL IMPACTS

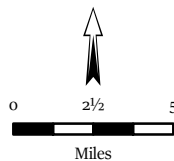
See policies and actions identified in impacts 3.13-1



Sources: USGS National Map; USGS Protected Areas Database; CalAtlas. Map date: March 29, 2019. Revised October 18, 2019.

Legend

- School
- Fire Station
- †† Cemetery
- Library
- Park
- Park/Boat Launch
- Senior Center
- Memorial Hall



COUNTY OF GLENN, CALIFORNIA

FIGURE 3.13-1. COMMUNITY SERVICE FACILITIES

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This chapter describes the potential impacts to the roadway, transit, bicycle, and pedestrian components of the County's transportation system as well as roadway safety. To provide context for the impact analysis, this chapter begins with a discussion of the environmental setting, which is a description of the existing physical and operational conditions for the transportation system. Following the setting is the regulatory framework influencing the transportation system and providing the basis for impact significance thresholds used in the impact analysis. The chapter concludes with the impact analysis findings and recommended mitigation measures.

In compliance with the CEQA Guidelines, the analysis of each modal component and safety is based on applicable technical guidance and Glenn County decisions regarding methodology, impact thresholds, and feasible mitigation. Vehicle related impacts are based on the plan's changes to vehicle miles of travel (VMT), a measure of the total distance traveled by vehicles that have a trip starting or ending in Glenn County. Separate VMT impacts are evaluated for residential versus non-residential land uses based on VMT generation rates, which are also called efficiency metrics because they express VMT on per resident or per worker basis. Residential uses are evaluated with home-based VMT per resident and non-residential uses are evaluated with home-based work VMT per employee except for retail land uses where total VMT is used. For transit, bicycle, and pedestrian system components, impacts are based on whether the plan will disrupt existing, or interfere with planned, facilities or services. Finally, for safety impacts, the plan's proposed transportation network changes are evaluated for consistency with applicable design standards. These standards are created to provide users with common expectations when using the transportation system to help minimize potential conflicts that could cause collisions.

Transportation-related comments were received during the public review period for the Notice of Preparation from the California Department of Transportation (Caltrans). Caltrans provided context and background information regarding planned operational and safety improvements to the State Highway System within the Planning Area. Full comments received are included in Appendix A.

3.14.1 ENVIRONMENTAL SETTING

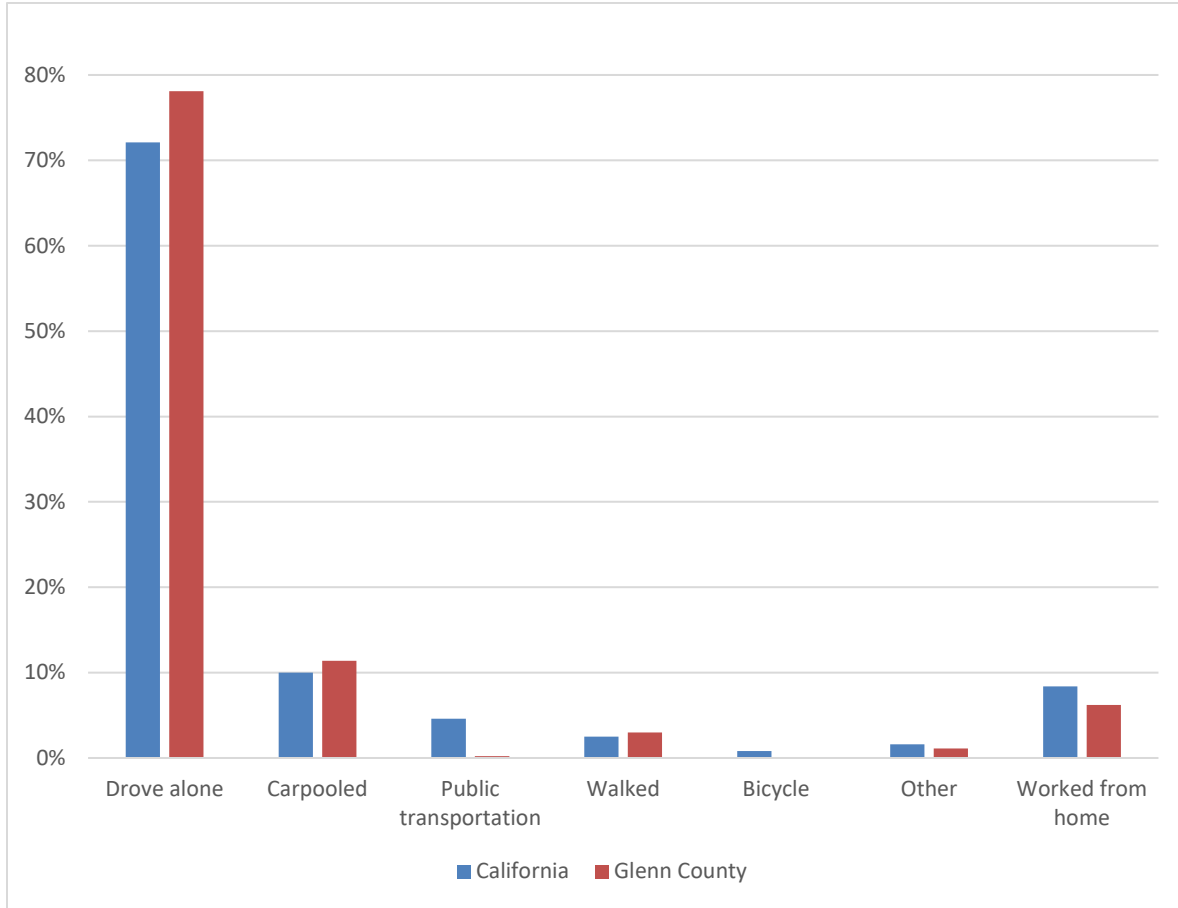
This section provides a contextual background to the County's existing transportation system, representing conditions prior to the onset of the COVID-19 pandemic. The pandemic caused substantial disruption to travel patterns and behavior, some of which has dissipated with the lifting of activity restrictions. However, some changes are expected to remain longer such as considering health risk when using modes that involve sharing of seats (e.g., transit or carpooling). The General Plan addresses the overall planning and development of the circulation system for moving people and goods in a multi-modal framework. Transportation system components include the roadway network, public transportation system, bicycle and pedestrian system, and goods movement.

The automobile is the most widely used mode of transportation in Glenn County. According to the U.S. Census Bureau, 2020 American Community Survey 5-Year Estimate, about 90% of Glenn County residents that work commute by car, truck, or van. Approximately 87% of Glenn County residents that work drove alone while 13% carpoolled. About three percent of workers walk to work. Less than 2% take public transportation, bicycle, or use other means to get to work, and approximately 6%

3.14 TRANSPORTATION AND CIRCULATION

work at home. These percentages changed during the pandemic, with the biggest change occurring in people that work at home. According to data from the Household Pulse Survey conducted by the U.S. Census Bureau, the percentage of adults in households where at least one adult has substituted some or all their typical in-person work for telework because of the coronavirus pandemic was over 40% in California in 2021 thus far¹, though Glenn County likely has a different balance of jobs that allow for telework than average in California.

CHART 3.14-1: METHOD OF TRANSPORTATION TO WORK



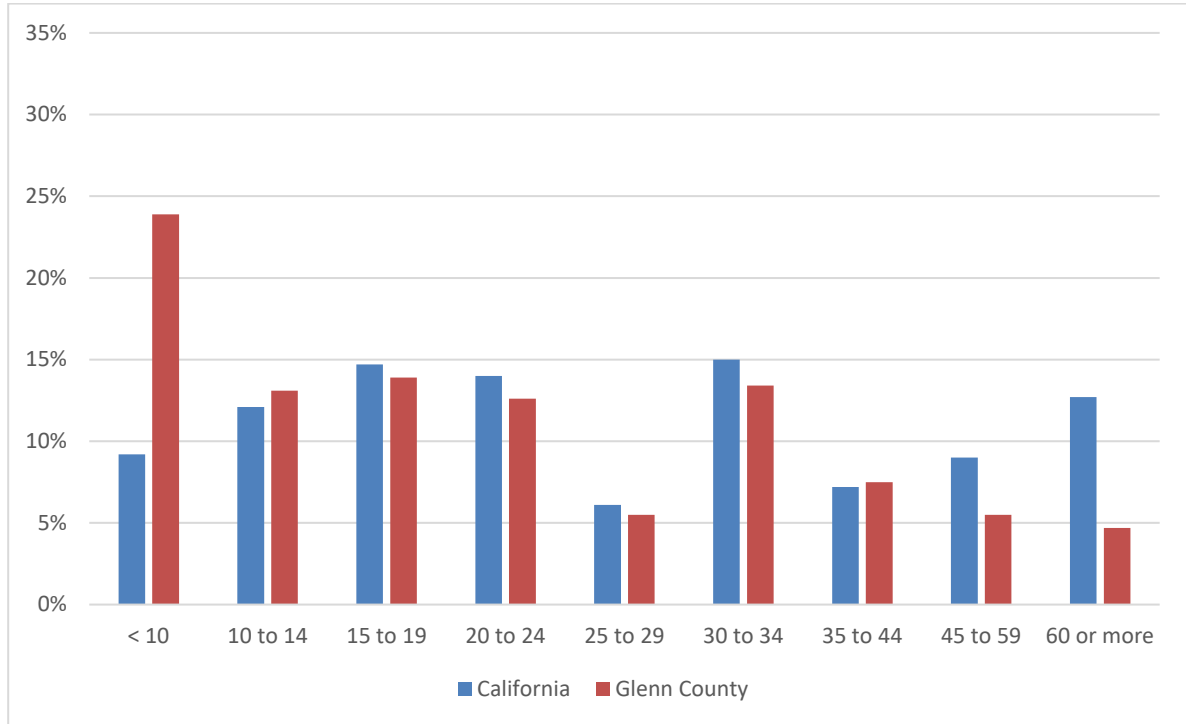
Source: *American Community Survey*, Census Bureau, 2016-2020.

Data from the 2020 American Community Survey 5-Year Estimate also shows the amount of time commuters take to get to work. Based on the data, about 37% of workers living in Glenn County traveled to work in under 15 minutes, 32% traveled to work in 15 to under 30 minutes, 21% traveled to work in 30 to under 45 minutes, and 10% traveled to work in 45 minutes or more. Average travel time to work was estimated to be 24 minutes. Commute times for Glenn County workers are shorter

¹https://www.census.gov/data-tools/demo/hhp/#/?periodSelector=26&measures=TELEWORK&s_state=00006

than for the state, where 56 percent travel to work in 29 minutes or less and the average travel time to work is 30 minutes.

CHART 3.14-2: TRAVEL TIME TO WORK (IN MINUTES)







Source: *American Community Survey*, Census Bureau, 2016-2020.

VEHICLE MILES TRAVELED

One vehicle mile traveled (VMT) occurs when one vehicle (regardless of number of occupants) is driven on a roadway for one mile. For the purposes of this EIR, VMT is typically estimated and projected for an average weekday. Many factors affect VMT, including the average distance residents commute to work, school, and shopping, as well as the availability and viability of other modes. Areas that have a diverse land use mix, high quality transit service, and adequate facilities for walking and bicycling, tend to generate lower VMT than auto-oriented rural areas where residents travel long distances to/from work, school, and other amenities.

VMT is used to measure performance of the existing transportation network and to evaluate potential transportation impacts. VMT can be reported and analyzed as an absolute amount using a metric like total weekday VMT or an efficiency metric such as VMT per capita. Efficiency metrics allow the VMT performance of different-sized projects or plans to be compared. Such metrics provide a measure of travel efficiency and help depict whether different planning scenarios generate more or less vehicle travel. Several VMT metrics are described in Table 3.14-1. These metrics generally involve the tracing or accounting of vehicle trips and their length within a specific study boundary or from a specific trip generation source.

TABLE 3.14-1. VEHICLE MILES TRAVELED METRIC DEFINITION AND VISUALIZATION

Metric	Definition	Visualization
Total Network VMT	All vehicle-trips (i.e., passenger and commercial vehicles) assigned on the network within a specific geographic boundary (i.e., model-wide, region-wide, city-wide). Vehicle volume on each link is multiplied by link distance.	
Total VMT generated by a project	All vehicle-trips are traced to/from a project site. This metric captures all passenger and commercial vehicle VMT generated by the residents, workers, and visitors to a site.	
Home-Based VMT per resident	All home-based automobile vehicle trips are traced back to the residence of the trip-maker; non-home-based trips are excluded.	
Home-Based Work (HBW) VMT per employee	All automobile trips between home and work are counted.	

Glenn County does not maintain a travel demand model that can estimate or forecast VMT. However, VMT efficiency metrics were estimated by Fehr & Peers for Glenn County's *Senate Bill 743 Vehicle Miles Traveled Implementation Plan* (January 2022) using three sources:

1. California Household Travel Survey
2. California Statewide Travel Demand Model
3. StreetLight Data

A fourth source, statistical information derived from the Highway Performance Monitoring System (HPMS) by the California Department of Transportation and California State Transportation Agency was also used for comparative analysis.

The sections below describe these data sources, VMT results, and estimate limitations.

CALIFORNIA HOUSEHOLD TRAVEL SURVEY

Table 3.14-2 shows VMT results from the California Household Travel Survey (CHTS) conducted in 2012. As the table shows, estimated VMT per resident in the unincorporated County is higher than in the Cities of Orland and Willows. While home-based work trip lengths are shorter in the unincorporated County than in the City of Willows, estimates for the cities should be considered with caution because of the small sample sizes.

TABLE 3.14-2: CHTS (2012) VMT ESTIMATES

METRIC	ORLAND	WILLOWS	GLENN COUNTY (UNINCORPORATED)	GLENN COUNTY (TOTAL)
Household VMT	90,193	120,113	262,005	472,362
Home-based VMT	71,232	83,031	180,277	335,731
Home-based work trip length (miles)	7.7	14.0	12.0	11.3
Total Residents *	5,694	8,957	11,931	26,582
Total VMT per resident	15.8	13.4	22.0	17.8
Home-based VMT per resident	12.5	9.3	15.1	12.6
Percentage of VMT that is home-based	79%	69%	69%	71%
Sample Persons	83	81	121	285

Note: Data highlighted in grey are based on small sample sizes; actual numbers may be notably different. Actual VMT may be notably different for every area other than the County as a whole.

* Total residents reported in the CHTS differ from other population estimates for the same year, such as those from the California Department of Finance which included higher estimates for the City of Orland and the County but lower estimates for the City of Willows.

Source: Caltrans 2013 (<https://www.nrel.gov/transportation/secure-transportation-data/tsdc-california-travel-survey.html>), Fehr & Peers 2021.

CHTS data only represents vehicle travel by residents, not VMT generated visitors, workers, and commercial vehicles that start or end trips in the county. Furthermore, the data is a decade old and may not reflect travel behavior as it exists today.

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CALIFORNIA STATEWIDE TRAVEL DEMAND MODEL

Table 3.14-3 shows VMT results from the California Statewide Travel Demand Model (CSTDM) with a base year of 2010. One limitation of the CSTDM is that the model’s geographic representation of trips does not allow individual cities to be isolated, with model estimates including trips generated outside city limits. As such, the CSTDM is best suited to analyze trips made between population centers; its analysis zones are not refined enough to provide accurate results for localities. Thus, actual VMT will vary from these estimates due to level of geographic detail and age of estimation.

Still, this data shows that VMT per person in the unincorporated County is higher than that in Orland or Willows. The VMT results per resident – both total VMT and home-based VMT – are higher than the same findings from the CHTS, as is the percent of total VMT that is home-based.

TABLE 3.14-3: CSTDM (2010) VMT ESTIMATES

METRIC	ORLAND	WILLOWS	GLENN COUNTY (UNINCORPORATED)	GLENN COUNTY (TOTAL)
Total VMT	197,963	164,374	221,106	583,443
Home-based VMT	158,032	129,996	186,412	474,439
Home-based work trip length (miles)	15.5	15.8	19.6	16.8
Residents	10,672	8,960	8,490	28,122
Home-based VMT per resident *	14.8	14.5	22.0	16.9

Note: * Total residents reported in the CSTDM differ from other population estimates for the same year, such as those from the California Department of Finance which included higher estimates for the City of Orland and the County but lower estimates for the City of Willows.

Source: Caltrans 2015 (<https://dot.ca.gov/programs/transportation-planning/multi-modal-system-planning/statewide-modeling>), Fehr & Peers 2021.

STREETLIGHT DATA

Table 3.14-4 shows results from an analysis of VMT data purchased from StreetLight Data. StreetLight Data combines Location-Based Services data with machine learning algorithms to understand travel behavior. To understand VMT in Glenn County, the dataset purchased includes average VMT per device for residents and workers, disaggregated to Travel Analysis Zones (TAZ) within the County. (For more information on these TAZs, see Glenn County’s *Senate Bill 743 Vehicle Miles Traveled Implementation Plan*).

The results reported are the average of all Tuesdays, Wednesdays, and Thursdays in 2019. Trip length is calculated based on GPS data for the distance on the roadway network of each trip. To calculate residential VMT, a device is deemed to be associated with a resident if in the same location during most overnight hours, 7 PM to 8 AM. Resident VMT considers all trips that have a trip origin or destination at the residence. To calculate worker VMT, a primary workplace was defined as the place that is not the residence of the device where it spends the most time on weekdays, 11 AM to 4 PM. Special care was taken to exclude students or additional stops (such as gas stations on the way home) from work trips in the dataset.

Device sample counts for some areas were low; therefore, VMT estimates should be considered with care.

TABLE 3.14-4: STREETLIGHT DATA (2019) VMT ESTIMATES

METRIC	GLENN COUNTY (UNINCORPORATED)	GLENN COUNTY (TOTAL)
Resident home-based average trip length	13.5	12.2
Employee home-based average work trip length	14.2	11.8
Home-based VMT per resident	27.0	24.4
Home-based work VMT per worker	19.9	17.7

Notes: Home-based VMT per resident is defined in the dataset as Resident HBx VMT per Device Day.
 Home-based work VMT per worker is defined in the dataset as Total Employee HBW VMT per Device Day.
 Source: Fehr & Peers 2021.

StreetLight data had a VMT per resident in the unincorporated County that was higher than that in the County as a whole, consistent with the results from both the CHTS and the CSTDM.

CALIFORNIA PUBLIC ROAD DATA HIGHWAY PERFORMANCE MONITORING SYSTEM

Table 3.14-5 shows results derived from the Caltrans Highway Performance Monitoring System (HPMS). HPMS is a national highway information system that includes data on the extent, condition, performance, use, and operating characteristics of U.S. highways. The accuracy, currency, completeness, and level of detail of the data is limited. It should also be noted that the calculation is based on total network VMT, as opposed to home-based VMT efficiency metrics.

TABLE 3.14-5: HIGHWAY PERFORMANCE MONITORING SYSTEM (2020) VMT ESTIMATES

METRIC	GLENN COUNTY TOTAL (2010)	GLENN COUNTY TOTAL (2015)	GLENN COUNTY TOTAL (2019)
Daily VMT	1,363,050	1,476,410	1,387,200
Residents	27,935	28,029	27,976
VMT per resident ¹	48.8	52.7	49.6

Notes: (1) This metric is a simple ratio derived by dividing the daily VMT by county residents. As such, it is different than other metrics reported above that reflect the VMT generation rate associated with residents or workers for specific trip purposes.
 Source: Caltrans 2010, 2015, and 2019 (<https://dot.ca.gov/programs/research-innovation-system-information/highway-performance-monitoring-system>); U.S. Census Bureau, 2022; Fehr & Peers 2022.

LIMITATIONS OF VMT ESTIMATES

Estimates of current VMT are inherently dependent on the method used and may need to be modified to account for future changes in travel associated with online shopping, telecommuting, economic activity, fuel prices, different modes of travel, or future trends such as autonomous vehicles.

Furthermore, the current COVID-19 pandemic and subsequent actions by federal, state, and local governments to curtail mobility and encourage physical distancing have temporarily but profoundly changed travel conditions. It is possible that some of these temporary changes will influence people’s travel choices into the future, including either accelerating or diminishing some of the emerging trends in transportation that were already underway prior to the pandemic, such as replacing daily commutes with telework.

ROADWAY SYSTEM

This section describes the physical characteristics of Glenn County's existing roadway network. Figures 3.14-1A and 3.14-1B show the functional classifications of the roadway network in Glenn County, with inset maps for the City of Orland and the City of Willows.

State Highways

Interstate-5: I-5 is a major 4-lane freeway that extends 29 miles through Glenn County from north to south passing through Willows and Orland. Daily traffic volumes on I-5 in Glenn County average approximately 53,000 vehicle trips per day.

State Route 32: SR 32 is a west-east 2-lane conventional highway (Classified as a Rural Principal Arterial and an Urban Principal Arterial for some portions near I-5) beginning at I-5 in the City of Orland and ending at SR 36 in Tehama County. SR 32 is the primary connection between the Cities of Orland, Hamilton City, and Chico and is the only transit corridor. Daily traffic volumes between County Road M and the Glenn County/Butte County line ranges from approximately 17,000 vehicles to 21,600 per day.

State Route 45: SR 45 is a north-south 2-lane conventional highway (Classified as a Rural Minor Arterial) beginning in Yolo County at the town of Knights Landing and ending at Hamilton City in Glenn County. SR 45 serves rural low-density communities, agricultural land use, and recreational access points, which generate intercity traffic, agricultural traffic and seasonal recreational traffic. Daily traffic volumes on SR 45 in Glenn County range from approximately 2,100 to 5,100 vehicles per day.

State Route 162: SR 162 generally runs as an east-west 2-lane conventional highway (Classified as a Rural Minor Arterial), except through the City of Willows, where it is classified as a 4-lane conventional highway. SR 162 is legislatively designated as an Interregional Road System (IRRS) Route beginning in the Mendocino National Forest and extending east into Oroville in Butte County. SR 162 connects I-5, SR 45, SR 99, and SR 70. Daily traffic volumes in Glenn County average approximately 4,600 vehicles per day.

Arterials

Arterial streets are designed to serve through traffic and major local traffic generators such as residential, commercial, industrial, and institutional uses. The arterials in Glenn County are described below:

County Road 200 (Newville Road): County Road 200, also known as Newville Road, is a two-lane roadway that extends from Newville to the Orland city limit. County Road 200 is designated a Minor Arterial between County Road E and the Orland city limit.

Swift Street: Swift Street is a two-lane, east-west roadway in the City of Orland with a center left-turn lane and parking available on both sides of the street. Swift Street is designated a Minor Arterial between 8th Street and 6th Street.

County Road 99W (6th Street/Tehama Street): County Road 99W is a two-lane, north-south roadway that extends through Glenn County. It includes a center left-turn lane through much of the City of Orland, where it is known as 6th Street. From Swift Street to South Street it is designated a Principal Arterial. County Road 99W includes a center left-turn lane between Biggs-Willows Road and Sycamore Street in the City of Willows, where it is known as Tehama Street. From Eureka Street to County Road 58, it is designated a Principal Arterial. Aside from these two segments in Orland and Willows, where it is designated a Principal Arterial, County Road 99W is designated a Minor Arterial from County Road 9 to County Road 60.

North Humboldt Avenue: North Humboldt Avenue is a two-lane, north-south roadway in the City of Willows. It includes a center left-turn lane for part of the segment between Green Street and Biggs-Willows Road. Between Green Street and Sycamore Street it is designated a Minor Arterial.

North Villa Avenue: North Villa Avenue is a two-lane, north-south roadway in the City of Willows. It includes parking on both sides of the street between Wood Street and Sycamore Street, where it is designated a Minor Arterial.

Lassen Street: Lassen Street is a two-lane, north-south roadway in the City of Willows. It includes parking on both sides of the street between Wood Street and Elm Street, where it is designated a Minor Arterial.

Sycamore Street: Sycamore Street is a two-lane, east-west roadway in the City of Willows. It includes parking on both sides of the street between Villa Avenue and Tehama Street, where it is designated a Minor Arterial.

Laurel Street: Laurel Street is a two-lane, east-west roadway in the City of Willows. It includes parking on both sides of the street between South Villa Avenue and South Tehama Avenue, where it is designated a Minor Arterial.

Forest Service Roads

The Mendocino National Forest maintains an extensive system of roads supporting logging and recreational activities. Within Glenn County, there are approximately 759 miles of Level 1 through 5 classified forest service roads. Forest Service roads are classified by function similarly to County roads, but are also identified by access provisions and the type of vehicles that can safely operate on them. Table 3.14-6 summarizes the classification and mileage of Forest Service Roads.

TABLE 3.14-6: FOREST SERVICE ROADS IN GLENN COUNTY

<i>ROAD CATEGORY</i>	<i>MILEAGE</i>
Level 1	279
Level 2	421
Level 3	58
Level 4 & 5	1
Total	759

Source: Mendocino National Forest, Glenn County 2015 Regional Transportation Plan.

PUBLIC TRANSPORTATION SYSTEM

The public transportation system in Glenn County includes bus transit, taxi, and ride sharing services.

Bus Transit Operations

The primary transit service within Glenn County is Glenn Ride, which provides seven round trips every weekday and three round trips on Saturday from Willows to Chico with service to Artois, Orland, and Hamilton City. Glenn Ride buses are equipped with accessible lifts and bicycle racks. While Glenn Ride is a fixed route transit service, users may also request deviations up to $\frac{3}{4}$ of a mile to drop them closer to their final destination.

Additional transportation assistance is provided to eligible residents through Dial-A-Ride and Volunteer Medical Transport. Seniors 60 years of age or older and those on Permanent Disability, or low income are eligible for Transit Service Cards to use these services.

Tehama Rural Area Express (TRAX) provides six round trips every weekday that serves Red Bluff, Corning, and Orland.

Taxi and Ride Sharing Services

Taxi service in Glenn County is provided sporadically by private operators. Taxi service may be available seven days a week by calling in a service request to operators in Orland, Chico, and other larger cities.

Lyft and Uber provide connections to local and regional destinations. Availability varies depending on driver availability, and service may always not be available. Service is requested by smartphone apps for each provider.

BICYCLE AND PEDESTRIAN SYSTEM

This section describes the bicycle and pedestrian network in Willows.

Bicycle Facilities

Bicycle facilities are categorized into four types as described below.

- **Class I Bikeway (Bike Path):** Also known as a shared-use path or multi-use path, bike paths provide a completely separated right-of-way for the exclusive use of bicycles, pedestrians, and other non-motorized modes.
- **Class II Bikeway (Bike Lane):** Dedicated on-street, striped lane for one-way bicycle travel. Some may have painted buffers on one or both sides to provide space between bicyclists and moving traffic or parking cars.
- **Class III Bikeway (Bike Route):** Routes where the travel lane is shared by drivers and bicyclists. They are most suited for roadways with low traffic speeds and volumes, such as quiet residential streets. Some routes, called bicycle boulevards, may be enhanced with curb extensions or other traffic calming treatments to improve comfort for bicycling.
- **Class IV Bikeway (Separated Bikeway or Cycle Track):** On-street bicycle facilities that include physical protection from vehicle traffic. This separation might include a curb, on-

street parking, flexible bollards, or concrete planters. Class IV bikeways may provide for one-way or two-way travel on each side of the roadway.

There are currently two short segments of Class II bicycle lanes in Glenn County: in Willows on SR 162 west of I-5, and in Orland on SR 32 east of Papst Avenue, as shown in Figures 3.14-2A and 3.14-2B. There are no Class I paths, Class III routes, or Class IV bikeways in Glenn County.

The Glenn County Active Transportation Plan, adopted in June 2019, proposes bicycle and pedestrian facility improvements in the communities of Orland, Willows, and Hamilton City.

Pedestrian Facilities

Pedestrian facilities include multi-use off-street paths, sidewalks, crosswalks, curb ramps, and streetscape amenities. Many streets in Glenn County lack pedestrian amenities.

Sidewalks form the backbone of the pedestrian transportation network. They improve safety and comfort for people walking and support daily physical activity, improve public safety, and contribute to community character. Many sidewalk gaps currently exist in Glenn County, notably in unincorporated Hamilton City and at the periphery of Orland and Willows.

Crosswalks are a legal extension of the sidewalk and are not required to be marked. However, marked crosswalks alert drivers of a pedestrian crossing point and increase yielding to pedestrians, in addition to providing guidance for pedestrians and delineating their path of travel. Marked crosswalks are present at few intersections in Glenn County, mostly in Orland and Willows. Some intersections have only one marked crosswalk, while others are marked on all legs.

Curb Ramps are necessary for people who use wheelchairs or other mobility devices, as they allow access to sidewalks and crosswalks. Ramps are also helpful to people pushing strollers, or who may have difficulty stepping onto a raised curb. The Americans with Disabilities Act (ADA) requires the installation of curb ramps with all sidewalk projects, whether new construction or retrofits. Curb ramps should ideally be placed at each end of the crosswalk (perpendicular to curb ramps), although in some circumstances diagonal curb ramps may be acceptable. Accessible curb ramps are provided at some intersections in Orland, Willows, and Hamilton City, largely in areas with more recently constructed sidewalks. Most locations lack curb ramps, including many marked crosswalks.

The Glenn County Active Transportation Plan, adopted in June 2019, proposes sidewalk gap closures and curb ramps, curb extensions, high visibility crosswalks, and other pedestrian infrastructure improvements throughout Orland, Willows, and Hamilton City.

GOODS MOVEMENT

Truck Transport and Heavy Rail

Trucking is a major means of transportation for goods produced in Glenn County. Truck traffic accounts for a considerable portion of traffic on highways in Glenn County. On Interstate-5 truck traffic may account for as much as 28 percent of Average Annual Daily Traffic (AADT). For SR 32, SR 45, and SR 162, truck traffic accounts for approximately 5 to 20 percent of total AADT in some

segments². Maintaining safe and efficient roadways for the movement of goods is an important issue in Glenn County where agriculture and industrial services make up a large portion of the local economy.

The Surface Transportation Assistance Act (STAA) of 1982 defines a network of state facilities as truck routes which accommodate large trucks. STAA routes have specific signage and are designed with street widths, curb return radii, and other features to accommodate STAA trucks, which have longer wheelbases than other trucks. I-5 is the only STAA route in Glenn County.

California Northern Pacific Railroad Company (CFNR) provides freight service through Glenn County. The CFNR Mainline tracks traverse the County parallel to I-5 and just east of Old Highway 99, running through the Cities of Willows and Orland. A small east-west branch line in Willows runs north of SR 162 connecting to the Johns Manville manufacturing facility on County Road 48. According to Federal Railroad Administration records, there are 23 locations where the CFNR lines cross public and private roads at-grade in Willows. About half of these crossings are unmarked, while the other half have railroad crossing advance warning signs. Only the crossing of the John Manville branch line and I-5 is grade-separated.

Aviation

Glenn County owns and operates two public use general aviation airports: the Willows-Glenn County Airport, located in the City of Willows, and the Haigh Field Airport, located in the City of Orland. Glenn County has no commercial air service to its airports.

HAIGH FIELD AIRPORT

Haigh Field Airport is located east of the City of Orland at the southwest corner of County Roads 200 and P. The Haigh Field Airport is located in a mixed development area with residential dwellings located to the northwest. Orchards are located to the east and south. The County operates a 65-acre industrial park that is located to the east of the airport.

Haigh Field Airport facilities include a single 60' x 4500' asphalt-concrete runway, parallel taxiway, 22 T hangars, and three conventional hangars. Two of the conventional hangars are leased for aerial agricultural chemical applicator uses, and the remaining hangar is used by the airport's Fixed Based Operator (FBO) as an aircraft repair facility. The airport also has 52 County-owned hangars available for rent. The airfield has medium intensity runway lights for night operations. The FAA 5010 Master Record reports 20,000 annual operations and 48 based aircraft.

WILLOWS-GLENN COUNTY AIRPORT

The Willows-Glenn County Airport is located west of the City of Willows. The airport has two asphalt runways. The primary runway 16-34 is 100' x 4125'. It has an Airport Reference Code of B-II and pavement strength of 90,000 pounds. The secondary runway 13-31 is 100' x 3788'. It has an Airport Reference Code of A-I and a pavement strength of 38,000 pounds. A full-length parallel taxiway connects the primary runway to the airport's building area. Runway 16-34 is a non-precision

² <https://dot.ca.gov/programs/traffic-operations/census>

instrument runway with four published approaches. The lowest minimum visibility approach is one mile.

While many flight operations out of the Willows-Glenn County Airport are agricultural-related (given the County's high production of rice and other agricultural products), other flight activities also include business, recreational, emergency, flight training, and law enforcement. The FAA 5010 Master Record reports 29,500 annual operations, 39 single engine aircraft, one jet, and two helicopters. At the center of the building area are 45 hangars of various sizes and conditions. Some are proposed for construction improvements in the Aviation CIP list of projects.

Waterways

No major water-borne forms of transportation are located within the County. Access to other regional services is by I-5 to the Port of Sacramento, 90 miles to the south, and the ports of Richmond, Oakland, and San Francisco 130 miles southwest.

Two County-owned and –maintained access points to the Sacramento River are provided in the communities of Ord Bend and Butte City. These access points provide recreational access to the Sacramento River. Most boating use is seasonal with the heaviest activity occurring during the summer months.

3.14.2 REGULATORY SETTING

The General Plan, along with a variety of regional, state, and federal plans, legislation, and policy directives provide guidelines for the safe operation of streets and transportation facilities in Glenn County. Glenn County staff works on a continual basis with responsible regional, state, and federal agencies including the California Department of Transportation (Caltrans), the Federal Highway Administration, and others to maintain, improve, and balance the competing transportation needs of the communities in the region. Federal, state, regional, and local laws or regulations applicable to analyzing transportation impacts of the general plan are described below.

FEDERAL

Americans With Disabilities Act

The Americans with Disabilities Act (ADA) of 1990 provides comprehensive rights and protections to individuals with disabilities. The goal of the ADA is to assure equality of opportunity, full participation, independent living, and economic self-sufficiency. To implement this goal, the United States Access Board has created accessibility guidelines for public rights-of-way. The guidelines address various issues, including roadway design practices, slope and terrain issues, pedestrian access to streets, sidewalks, curb ramps, street furnishings, pedestrian signals, parking, and other components of public rights-of-way.

STATE

Senate Bill 743

SB 743, passed in 2013, resulted in several statewide CEQA changes. The revised CEQA Guidelines triggered the elimination of vehicle LOS as the basis for transportation impacts and established automobile VMT as the primary metric to determine transportation impact significance for land use projects and plans, which become effective statewide since July 1, 2020.

The CEQA Guidelines were accompanied by the OPR “Technical Advisory on Evaluating Transportation Impacts in CEQA” (December 2018) includes specifications for VMT methodology and recommendations for significance thresholds, screening of project that may be presumed to have less than significant impacts, and mitigation.

Screening criteria include:

- **Small projects:** The Technical Advisory concludes that, absent any information to the contrary, projects that generate 110 trips per day or less may be assumed to cause a less-than-significant transportation impact.
- **Projects near transit stations:** Projects located within ½ mile of an “existing major transit stop” or an “existing stop along a high-quality transit corridor” would have a less-than-significant impact on VMT.
- **Affordable residential development:** Projects consisting of a high percentage of affordable housing may be assumed to cause a less-than-significant transportation impact on VMT

because they may improve jobs-housing balance and/or otherwise generate less VMT than market-based units.

- **Redevelopment projects:** If a proposed redevelopment project leads to a net overall decrease in VMT (when compared against the VMT of the existing land uses), the project would lead to a less-than-significant transportation impact.
- **Local-serving retail:** Trip lengths may be shortened and VMT reduced by adding “local-serving” retail opportunities that improve retail destination proximity. Page 17 of the Technical Advisory generally describes retail development including stores less than 50,000 square feet as local-serving. In May 2020, OPR staff indicated during online webinars that any retail building that is 50,000 square feet or less may be considered local-serving.

Other key guidance includes:

- Lead agencies ultimately have the discretion to select their preferred VMT forecasting methodology and set their own significance thresholds, provided they are based on significant evidence. In rural counties, VMT thresholds may be best determined on a case-by-case basis.
- Cities and counties can still use measures of delay such as LOS for other plans (e.g., the general plan), studies, or network monitoring.

California Department of Transportation Guides and Reports

STATE OF CALIFORNIA TRANSPORTATION CONCEPT REPORTS

Caltrans prepares a Transportation Concept Report (TCR) for each of its facilities. The TCR is a long-term planning document that each Caltrans district prepares for every state highway or portion thereof in its jurisdiction. The TCR usually represents the first step in Caltrans’ long-range corridor planning process. The purpose of a TCR is to determine how a highway will be developed and managed so that it delivers the targeted LOS and quality of operations that are feasible to attain over a 20-year period. These are indicated in the “route concept.” In addition to the 20-year route concept level, the TCR includes an “ultimate concept,” which is the ultimate goal for the route beyond the 20-year planning horizon. The concept LOS for I-5, SR 32, SR 45, and SR 162 are outlined below.

INTERSTATE 5 (I-5)

I-5 in Glenn County has a route concept level of LOS D. The 20-year concept and ultimate facility remains a four-lane freeway.

STATE ROUTE 32 (SR 32)

Caltrans has identified the following four segments for SR 32 in Glenn County:

- Segment 1 (Interstate 5 to 6th Street) – has a concept level of LOS D. The 20-year concept facility is a two-lane conventional highway. The ultimate facility is a two-lane conventional highway with Class II bike lanes.
- Segment 2 (6th Street to County Road M) – has a concept level of LOS D. The 20-year concept facility is a two-lane conventional highway. The ultimate facility is a two-lane conventional highway with Class II bike lanes.

3.14 TRANSPORTATION AND CIRCULATION

- Segment 3 (County Road M to State Route 45) – has a concept level of LOS D. The 20-year concept facility is a two-lane conventional highway. The ultimate facility is two-lane conventional highway from County Road M to the Orland city limit with Class II bike lanes and a four-lane conventional highway between the Orland city limit and SR 45 with Class II bike lanes.
- Segment 4 (State Route 45 to Glenn/Butte County line) – has a concept level of LOS D. The 20-year concept facility is a two-lane conventional highway. The ultimate facility is a four-lane conventional highway with passing lanes and Class III bike lanes.

STATE ROUTE 45 (SR 45)

State Route 45 in Glenn County has a route concept level of LOS D. The 20-year concept remains a two-lane conventional highway with maintenance, shoulder widening, and improvements for bicycle and pedestrian facilities. The ultimate facility is a two-lane conventional highway with maintenance and intersection modifications.

STATE ROUTE 162 (SR 162)

Caltrans has identified the following five segments for SR 162 in Glenn County:

- Segment 1 (Glenn County line to County Road 307) – is an unconstructed road and in the District System Management Plan for Caltrans District 3 as a Relinquishable Highway Segment.
- Segment 2 (County Road 307 to Interstate 5) – has a concept level of LOS D. The 20-year concept and ultimate facility remain a two-lane conventional highway.
- Segment 3 (Interstate 5 to Central Irrigation Canal) – has a concept level of LOS D. The 20-year concept and ultimate facility is a four-lane conventional highway.
- Segment 4 (Central Irrigation Canal to State Route 45) – has a concept level of LOS D. The 20-year concept and ultimate facility remain a two-lane conventional highway.
- Segment 5 (State Route 45 to Glenn County line) – has a concept level of LOS D. The 20-year concept and ultimate facility remain a two-lane conventional highway.

VEHICLE MILES TRAVELED-FOCUSED TRANSPORTATION IMPACT STUDY GUIDE

The Caltrans “Vehicle Miles Traveled-Focused Transportation Impact Study Guide” (TISG), dated May 20, 2020, was prepared to provide guidance to Caltrans districts, lead agencies, tribal governments, developers, and consultants regarding Caltrans’ review of VMT impact analysis for land use projects and land use plans. Caltrans seeks to reduce single occupancy vehicle trips, provide a safe transportation system, reduce per capita VMT, increase accessibility to destinations via cycling, walking, carpooling, and transit, and reduce greenhouse gas (GHG) emissions. The TISG notes that, for land use projects and plans, automobile delay is no longer considered a significant impact on the environment under CEQA. Caltrans’ primary review focus for a land use project’s transportation impacts is now VMT. The TISG generally endorses the OPR “Technical Advisory,” including the thresholds in that document. Caltrans may review VMT thresholds, methodology, and mitigations.

INTERIM LAND DEVELOPMENT AND INTERGOVERNMENTAL REVIEW (LDIGR) SAFETY REVIEW PRACTITIONERS GUIDANCE

The Interim LDIGR Safety Review Practitioners Guidance (July 2020) provides technical instructions on how to evaluate potential safety impacts on the SHS. This guidance largely focuses on the actions

of Caltrans district staff in performing the analysis and providing relevant impact information to lead agencies. The interim guidance recommends that safety analyses include a review of three primary elements related to transportation safety—design standard compliance, collision history, and collision risk (consistent with the Federal Highway Administration’s Systemic Approach to Safety). The interim guidance does not establish specific analysis methods or significance thresholds for determining safety impacts under CEQA. Additionally, Caltrans notes that local agencies may use the interim guidance at their own discretion as a guide for review of local facilities.

REGIONAL

Glenn County Regional Transportation Plan

The current Regional Transportation Plan (RTP) produced by the Glenn County Local Transportation Commission was adopted in 2020. The RTP serves as the backbone of transportation fiscal planning by providing capital program planning for all regional, state, and federally funded projects in the County. The RTP states that its focus is “developing a coordinated and balanced multi-modal regional transportation system. The balance is achieved by considering investment and improvements for moving people and goods across all modes including roads, transit, bicycle, pedestrian, trucking, railroad, and aviation.” The RTP also demonstrates compliance with air quality conformity requirements under the federal Clean Air Act.

Glenn County Active Transportation Plan

The 2019 Glenn County Active Transportation Plan (ATP) establishes goals and strategies for Glenn County as it moves forward with improving walking and bicycling. The envisioned system builds significantly upon a small system of existing on-street and off-street facilities throughout the County with enhancements to connectivity, safety, and education programs. The Plan establishes goals, identifies future infrastructure projects, and promotes support and educational programs.

The plan includes the following goals:

- **Connectivity:** Improve bicycle and pedestrian access to community destinations within Orland, Willows, and Hamilton City.
- **Safety:** Design and maintain bicycle and pedestrian facilities that are safe and accessible for people of all ages and abilities.
- **Programs:** Increase walking and bicycling through encouragement, education, enforcement, and evaluation programs.
- **Health:** Improve health and enhance quality of life through improved access to and increased use of bicycle and pedestrian facilities.

The Glenn County ATP includes important bicycle facility improvements in Willows and Orland such as Class II bike lanes on major arterials. The plan also includes the closure of several sidewalk gaps and the addition of crossing improvements, such as new high-visibility crosswalks and rectangular rapid flashing beacons on busier corridors in Willows and Orland.

3.14.3 IMPACTS AND MITIGATION MEASURES

This section describes the analysis techniques, inputs, thresholds, and results used to identify potential significant impacts of the proposed general plan on the transportation system. Transportation impacts are described and assessed, and mitigation measures are recommended for impacts identified as significant or potentially significant.

METHODS OF ANALYSIS

The transportation impact analysis assesses how implementation of the proposed general plan would change the baseline conditions for the transportation system and whether those changes would constitute a significant impact under CEQA. The transportation impact analysis methodology includes evaluations of the roadway, bicycle, pedestrian, and transit components of the transportation system on the basis of plan consistency and safety. All analysis presumes that future background travel options and behaviors remain similar to current conditions and do not explicitly account for potential changes associated with disruptive trends, emerging technologies, and changes in travel choices.

ROADWAY NETWORK: VEHICLE MILES TRAVELED

Planned land use patterns were analyzed to determine how the proposed general plan would change demand for vehicle travel on the roadway network. The county does not have a travel demand model to estimate and forecast VMT, so the county opted to rely on a qualitative evaluation using the proposed threshold for land use plans from the *Glenn County Senate Bill 743 Vehicle Miles Traveled Implementation Plan* (January 3, 2022). The Implementation Plan provides a qualitative option for analysis; To “expect future residential and work-related land uses to perform at or better than baseline conditions for similar land uses and explain how this would not adversely affect the state’s ability to achieve its desired VMT and GHG reduction goals.” This guidance sets a general expectation that land use projects should generate automobile VMT per capita at a rate less than existing development.

TRANSIT SERVICE

The proposed general plan was evaluated to determine how it would affect existing and planned transit service within the county. Existing transit service is minimal in the County, and no long-term transit planning documents were available to evaluate as part of this analysis. Per the *Technical Advisory on Evaluation Transportation Impacts in CEQA* (December 2018) prepared by the Governor’s Office of Planning and Research, creating new demand for transit is not considered an impact.

BICYCLE AND PEDESTRIAN FACILITIES

Like transit impacts, the proposed general plan was analyzed to determine how it would affect existing and planned bicycle and pedestrian facilities and networks. Currently, the proposed plan does not include any roadway or off-street network modifications that would disrupt existing facilities. The *Glenn County Active Transportation Plan* includes several planned bicycle and pedestrian facilities in unincorporated areas in the county (see excerpts below). Table 4-3, Figure 3.14-2A, and several other figures in the Plan identify the planned location and type of facility along roadways in the unincorporated County.

Glenn County Active Transportation Plan – Unincorporated County Planned Facilities Excerpts

HAMILTON CITY

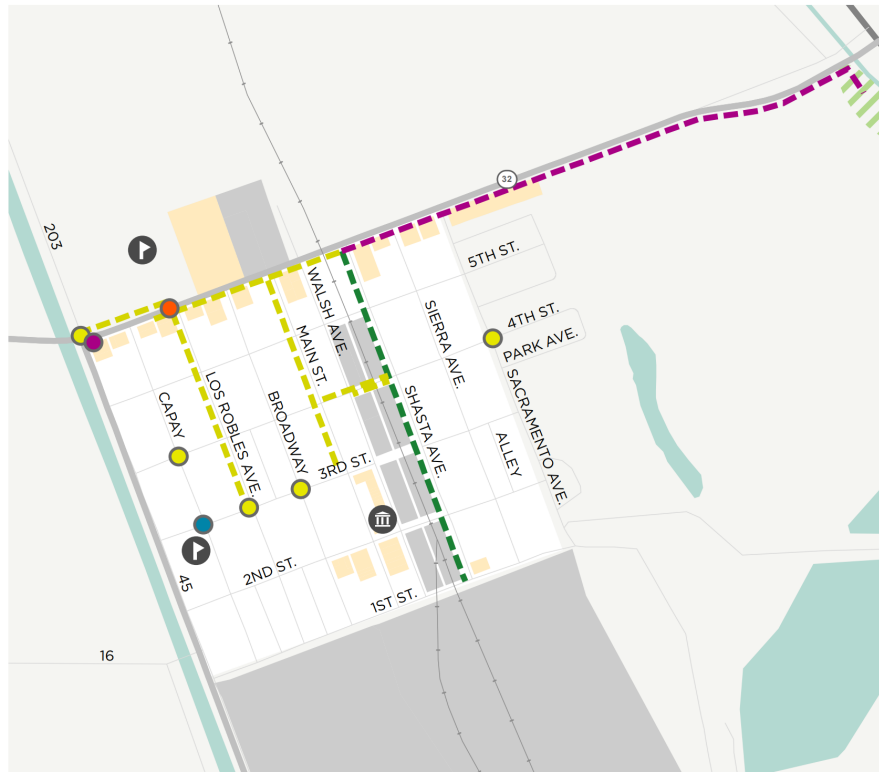
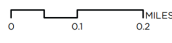
GLENN COUNTY
ACTIVE
TRANSPORTATION
PLAN

FIGURE 4-3
PROPOSED
IMPROVEMENTS

- High Visibility Crosswalk
- Raised Intersection
- RRFB
- Study: LPI
- Class I Shared-Use Path
- Sidewalk
- Study

DESTINATIONS +
BOUNDARIES

- III Civic Building
- P School
- Commercial
- Industrial
- Boat Launch and Recreation Area



ORCHARD TRAIL

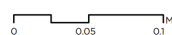
FIGURE 6-3
GLENN COUNTY
ACTIVE
TRANSPORTATION
PLAN

Proposed Improvements

- Class I Shared-Use Path

Major Destinations

- Commercial
- Industrial



3.14 TRANSPORTATION AND CIRCULATION

HAZARDS (SAFETY)

The proposed general plan was evaluated to determine whether it causes or contributes to hazards that could result in harm to travelers. Hazards may include a geometric design feature that is inconsistent with applicable design standards utilized by the county or a change in the volume, mix, or speed of multi-modal traffic attributable to the proposed general plan. Glenn County does not have roadway design standards that apply county-wide, and thus impact significance was primarily based on incompatible (i.e. unsafe) mix of traffic.

EMERGENCY ACCESS

The proposed general plan was evaluated to assess how it would influence emergency access within, to and from the regional network. Emergency access was primarily evaluated based on inconsistencies with Glenn County emergency response plans, including:

- *Glenn County Operational Area Emergency Operations Plan (OA EOP)*³, which provides guidance for an integrated response in the County by identifying individual roles and responsibilities, describing the concept of operations. Functional Annex C contain procedures that the County and Operational Area of Glenn follow for evacuations during emergency operations.
- *Glenn County Public Health and Medical Emergency Operations Plan (PH-MED EOP)*, which covers specific hazards to public health and medical care, including infectious disease and bio-terrorism, by planning communication and transportation needs during public health emergencies.

The proposed land use map was also compared to the state Fire Hazard Severity Zones (FHSZ) areas, defined by the Office of the State Fire Marshal⁴, to determine potential roadway impacts during mass evacuations.

³<https://www.countyofglenn.net/dept/sheriff/office-emergency-services/response-plans>

⁴<https://osfm.fire.ca.gov/divisions/community-wildfire-preparedness-and-mitigation/wildland-hazards-building-codes/fire-hazard-severity-zones-maps/>

THRESHOLDS OF SIGNIFICANCE

For the purposes of this EIR, adoption and/or implementation of the proposed General Plan would result in significant impacts under CEQA, if any of the following would occur:

- **Vehicle Miles Traveled** –
 - A significant impact will occur if the plan generates home-based VMT per resident or home-based VMT per worker at rates higher than the baseline unincorporated county averages.
 - A significant impact will occur if the plan adversely affects the state’s ability to achieve its desired VMT and GHG reduction goals.
- **Transit Service** – A significant impact will occur if the plan causes a disruption to existing transit service or interferes with future transit service or planned service expansion. Disruption includes causing delays or interruptions to service.
- **Bicycle and Pedestrian Facilities** – A significant impact will occur if the plan disrupts existing bicycle and pedestrian facilities or interferes with expansions of the bicycle and pedestrian networks contained in the *Glenn County Active Transportation Plan*.
- **Hazards (safety)** – A significant impact will occur if the plan causes an inconsistency with applicable design standards governing roadway geometrics (e.g., number and width of travel lanes), traffic controls, volume of traffic, mix of traffic, or speed of traffic. .
- **Emergency Access** – A significant impact will occur if the plan modifies the existing transportation network in a manner inconsistent with county emergency response plans.

IMPACTS AND MITIGATION MEASURES

Impact 3.14-1: General Plan implementation may conflict or be inconsistent with the VMT thresholds in the Glenn County SB 743 Implementation Plan (Less than Significant).

The unincorporated county is projected to add approximately 2,172 new residents and 745 jobs, with demand for approximately 773 new housing units and 531,250 additional square feet of job-generating development in the next 20 years, as described in Chapter 2.0, Project Description. Planned growth in the county is mostly on the periphery of Orland and Willows, specifically along state routes and interstate highways.

Based on the proposed General Plan Land Use Map (Figure 2.0-2) showing that development is concentrated near existing community areas and cities, the proposed General Plan should produce lower VMT generation rates than the existing unincorporated county average, thus not adversely affecting the state’s ability to achieve its desired VMT and GHG reduction goals.

The cities of Orland and Willows currently contain half the population of Glenn County and are projected to see approximately half of new residential development growth. When focusing on unincorporated county area alone, residential development would occur on the periphery of these population centers, such as the south and west sides of Orland, and North Willows, Hamilton City, and Artois. If new residents in the unincorporated city peripheries adopted similar VMT patterns of the city residents, the unincorporated county average VMT per resident would decrease. A similar logic is applied to the growth of new job centers, such as industrial facilities and highway commercial buildings built on the periphery of these cities, especially in west Willows. New employees working in the unincorporated city peripheries would decrease the unincorporated county average VMT per worker.

The proposed general plan also includes the following policies designed to reduce vehicle travel regularity and distance.

GENERAL PLAN POLICIES AND ACTIONS THAT MINIMIZE POTENTIAL IMPACTS

LAND USE ELEMENT POLICIES

LU 1-6 Locate new County government buildings and other public and quasi-public uses, such as hospitals, meeting halls, and private schools, in existing urbanized areas in convenient, central locations that provide maximum access for the maximum number of residents.

LU 1-7 Encourage future schools to be located in areas throughout the community in close proximity to the areas they are intended to serve.

LU 2-1 Concentrate future development within or adjacent to the communities that provide urban services, including Willows, Orland, Hamilton City, and Artois, with an emphasis on placing large-scale and more intense development projects in these population centers as opposed to other rural and remote areas that lack public services and amenities, or are not connected to an existing community.

LU 2-2 Make land use decisions that promote compact communities, generally filling in gaps of vacant and underutilized land between already developed areas before growing outward.

LU 2-4 Prohibit freestanding subdivisions and large-scale commercial developments that are isolated from existing communities, are outside of city and utility district spheres of influence, and/or and lack access to urban-level services.

LU 2-6 Use the Urban Reserve Area land use designation to identify lands for future urban use and to delineate the maximum extent of urban growth that can occur around established communities.

LU 4-3 Encourage infill development of vacant lots within existing commercial districts and the core downtown/business areas before new shopping areas are built on the periphery of communities.

LU 6-5 Encourage new development projects to incorporate pedestrian-scale design features that encourage walking, bicycling and the use of alternative transportation modes.

LAND USE ELEMENT ACTIONS

LU-1e Through the development review and permit process, ensure that residential developments meet the minimum density requirement stipulated on the Land Use Map in order to ensure that Glenn County has an ample number of housing units to meet all of its housing needs.

CIRCULATION ELEMENT POLICIES

CIR 4-1 Support land use with increased densities and intensity of tripmaking near incorporated cities and other small towns in the County, consistent with the Land Use Element, to reduce vehicle miles traveled and promote the use of walking, biking, and transit.

CIR 4-2 Encourage employers to provide programs for carpooling/transit/biking/walking subsidies, bicycle facilities, ridesharing, telecommuting, and working at home.

CIR 4-3 Monitor the deployment of new transportation technologies and services and develop policies that implement best practices to ensure these technologies and services benefit the public and the multimodal transportation system.

CIRCULATION ELEMENT ACTIONS

CIR-4a Adopt VMT thresholds and screening criteria for environmental impact analysis. Review and update those guidelines on a regular basis using updated data.

CIR-4b Explore the feasibility of a VMT impact fee program to fund transportation demand management strategies that are proven to reduce VMT.

AGRICULTURAL LANDS ELEMENT POLICIES

AG 1-6 Provide an orderly and phased development pattern, encouraging the development of vacant lands within city boundaries, community areas, and/or in areas adjacent to existing development, prior to conversion of unconnected agricultural lands, so that farmland is not subjected to premature development pressure or leapfrog developments.

3.14 TRANSPORTATION AND CIRCULATION

AG 1-10 Maintain urban limit lines around existing communities, development nodes and other areas of urban use, in an effort to protect agricultural land and to encourage infill development and growth.

These policies are supportive of actions that could dampen VMT growth and, when paired with the location of planned growth in the county under the 20-year planning horizon, VMT per capita (or per worker, resident, etc.) rates should be below existing levels. Therefore, this impact is **less than significant**.

VMT TRENDS

When making a VMT impact determination, other available evidence related to VMT trends in California was considered:

- *Draft 2022 Progress Report, California’s Sustainable Communities and Climate Protection Act* (California Air Resources Board, June 2022)
- *California Air Resources Board Improved Program Measurement Would Help California Work More Strategically to Meet Its Climate Change Goals* (Auditor of the State of California, February 2021)
- *Draft 2022 Scoping Plan Update* (California Air Resources Board, May 2022)

The Progress Reports measure the effect of SB 375, revealing that VMT and GHG per capita increased in California between 2010 and 2019 and are trending in the opposite direction predicted by the state’s metropolitan planning organizations (MPOs).

The Audit Report is an assessment of CARB’s GHG reduction programs, which also found that VMT and its associated GHG emissions were trending upward through 2018. Per the Audit, the state is not on track to achieve 2030 GHG reduction goals, and emissions from transportation have not been declining. The 2020 Mobile Source Strategy (California Air Resources Board 2021) also acknowledges the challenge of VMT reduction and states, “Without additional policy intervention, VMT may continue to rise.”

The Scoping Plan reviews California’s progress for meeting GHG reduction goals and sets forth strategies to achieve those goals based on past performance. The plan acknowledges that the state is not meeting its VMT reduction objectives and that VMT growth is returning after COVID-19 pandemic effects diminish.

This evidence demonstrates the challenge of reducing VMT when background macro-level conditions are contributing to higher VMT generation rates, suggesting greater action is needed to achieve the state’s GHG and VMT reduction goals. Without further action by the state to discourage vehicle travel (i.e., increasing the cost of driving) while reducing the barriers or constraints that prevent more efficient use of vehicles and greater use of transit, walking, and bicycling, VMT trends are unlikely to reverse.

CONCLUSION

The implementation of the proposed general plan would likely contribute to land use development patterns that generates VMT per resident and VMT per worker below baseline conditions. This land

use planning-level evaluation of the location of growth in residences and employment centers is macroscopic in nature and estimates only provide general estimates on the trends of VMT efficiency metrics. Consistent with Actions *CIR-4a* and *CIR-4b*, the county will adopt VMT thresholds and screening criteria for environmental impact analysis of projects and explore the feasibility of a fee program to fund transportation demand management strategies. Therefore, this impact is considered *less than significant*.

Impact 3.14-2: General Plan implementation may disrupt existing or conflict with planned transit service and/or bicycle and pedestrian facilities (Less than Significant).

Implementation of the proposed general plan will not result in modifications to the transit, bicycle, or pedestrian network that would disrupt existing facilities or services, or interfere with the implementation of planned facilities/services contained in adopted programs, plans, policies, or ordinances. Growth trends in the County suggest that transit service disruption due to the proposed general plan would be minimal.

Several policies, including *CIR 2-1: "Implement best practices to improve the pedestrian and bicycle environment, including but not limited to separated bike and pedestrian pathways, enhanced safety features, improved signage, and landscaping and lighting features to improve safety and comfort, where feasible and appropriate,"* will help facilitate the development of improved facilities for walking, bicycling, and transit use.

Likewise, implementation of the proposed general plan would enable the county to improve bicycle and pedestrian programs and infrastructure consistent with the County Active Transportation Plan. The proposed general plan also contains additional policies and implementing actions that support accessibility and the provision of amenities to bicyclists and pedestrians. Applicable policies and implementing actions are listed below.

GENERAL PLAN POLICIES AND ACTIONS THAT MINIMIZE POTENTIAL IMPACTS

LAND USE ELEMENT POLICIES

LU 6-5 Encourage new development projects to incorporate pedestrian-scale design features that encourage walking, bicycling and the use of alternative transportation modes.

LU 6-8 Encourage new development projects to incorporate public safety measures into project designs. Such measures may include, but are not limited to: crosswalks, exterior lighting, windows oriented towards the street, and other measures contained in the Crime Prevention through Environmental Design (CPTED) approach.

CIRCULATION ELEMENT POLICIES

CIR 1-1 Provide a roadway network that is consistent with the planned improvements shown in Circulation Element Map (Figure CIRC1).

CIR 1-3 Consider all modes of travel in planning, design, and construction of all transportation projects to create safe, livable, and inviting environments for pedestrians, bicyclists, motorists, and public transit users of all ages and capabilities.

3.14 TRANSPORTATION AND CIRCULATION

CIR 1-7 Consider all transportation improvements as opportunities to improve safety, access, and mobility for all roadway users.

CIR 2-1 Implement best practices to improve the pedestrian and bicycle environment, including but not limited to separated bike and pedestrian pathways, enhanced safety features, improved signage, and landscaping and lighting features to improve safety and comfort, where feasible and appropriate.

CIR 2-2 Coordinate pedestrian and bicycle facility improvements and pavement improvement projects (e.g., repaving and restriping), to the greatest extent feasible and while considering potential secondary effects.

CIR 2-3 Ensure that residents have convenient transit service to employment centers, County service centers, other government centers, and regional destinations (i.e., Sacramento International Airport), as funding allows.

CIR 3-1 Develop a truck network connecting Surface Transportation Accountability Act (STAA) and California legal trucks to industrial areas.

CIR 3-3 Minimize potential conflicts between trucks and pedestrian, bicycle, transit, and vehicle access and circulation on streets with truck travel.

CIRCULATION ELEMENT ACTIONS

CIR-1b Review and revise roadway standards for community and rural areas to ensure that the standards are adequate to accommodate complete streets, addressing the following factors as applicable: number of travel lanes, lane width, medians, drainage control, shoulder width, pavement striping and markings, parking lanes, bike lanes, fire and emergency response standards, curb and gutter design, landscaped strip, and sidewalk width.

CIR-1d Conduct a Local Roadway Safety Plan with the goal of reducing traffic fatalities and serious injuries on public roads and to support funding for safety improvements. The plan may consider collision history; vehicle, bicycle, and pedestrian volumes; vehicle speeds; and other improvements.

CIR-1e Design roadway infrastructure that protects human life when collisions happen on Glenn County roads.

CIR-2a Implement and build on recommendations for pedestrian and bicycle improvements in Hamilton City included in the Glenn County Active Transportation Plan (2019).

CIR-2b Work collaboratively with State and regional agencies, such as Caltrans and the Cities of Willows and Orland, to implement a regional bikeway system that connects the cities, larger unincorporated communities, recreation destinations, and scenic areas in Glenn County.

CIR-2c Pursue funding for construction and maintenance of bikeways and sidewalks, including off-road bikeways, where feasible.

CIR-2d Add planned bicycle and pedestrian facilities in conjunction with road rehabilitation, reconstruction, or re-striping projects whenever feasible.

CIR-2e Partner with Glenn Ride and other regional transit providers to conduct regular service reviews to advance convenient transit service to employment centers, County service centers, other

government centers, and regional destinations (i.e., Sacramento International Airport), as funding allows. Also continue to support regional transit initiatives that serve Glenn County, which are already underway.

CIR-3a Adopt, maintain, and enforce a truck route map that identifies key goods movement corridors and ensures goods movement needs are adequately served while reducing impacts to other uses.

CIR-3b Prominently sign all truck routes in accordance with the California Manual on Uniform Traffic Control Devices (CA MUTCD).

CONCLUSION

Implementation of the proposed general plan will not disrupt existing transit, bicycle, or pedestrian facilities/services and its policies and actions listed above will help facilitate planned improvements such as those in the Glenn County Active Transportation Plan. Therefore, this impact is ***less than significant***.

Impact 3.14-3: General Plan implementation may increase traffic hazards due to inconsistency with applicable design standards (Less than Significant).

Any modifications of the Glenn County roadway system to accommodate new planned growth would be done in compliance with applicable county design standards. Since the planned growth will include uses similar to those that exist today and in similar patterns, the proposed general plan would not change the volume, mix, or speed of multi-modal travel on Glenn County roadways in a manner inconsistent with applicable design standards. The proposed land use map and policies below emphasize land use compatibility, buffer areas between incompatible uses, and the prioritization of road safety, which would serve to reduce potential conflicts between users of the transportation system (e.g., semi-trucks, farm equipment, and passenger vehicles). Therefore, the proposed general plan would not substantially increase hazards due to inconsistencies with applicable design standards.

GENERAL PLAN POLICIES AND ACTIONS THAT MINIMIZE POTENTIAL IMPACTS

LAND USE ELEMENT POLICIES

LU 2-3 Use the Agricultural Transition and Rural Residential land use designations to buffer agricultural and other types of open space from existing communities.

LU 2-10 Encourage clustering of residential development when parcels are adjacent to commercial agricultural lands, so as to place dwellings as far as possible from the agricultural land.

LU 2-12 Provide for the orderly transition of lands within areas identified for urban development from agricultural to urban uses, and encourage and allow agricultural uses to continue until such time as urban development occurs.

LU 2-13 Ensure that the density and intensity of allowed development in established communities and rural areas is consistent with the existing and planned capability of public services and infrastructure.

3.14 TRANSPORTATION AND CIRCULATION

LU 3-4 The Land Use Map may be amended from time to time to ensure that there is an adequate supply of industrial, commercial, public service, residential, and other lands to serve the County's economic needs. However, agricultural and open space lands shall not be re-designated or developed for urban or residential uses unless: (a) The proposed use is necessary for the economic, agricultural, and social well-being of the County. (b) Residential uses are located away from areas of excessive noise, smoke, or dust, especially in those areas adjoining freeways or industrial uses. (c) The proposed use will not conflict with existing or anticipated uses in the vicinity.

LU 6-8 Encourage new development projects to incorporate public safety measures into project designs. Such measures may include, but are not limited to: crosswalks, exterior lighting, windows oriented towards the street, and other measures contained in the Crime Prevention through Environmental Design (CPTED) approach.

LAND USE ELEMENT ACTIONS

LU-1g Through the development review and permit process, screen development proposals for land use compatibility, including potential conflicts with adjacent uses and operations.

LU-3a Utilize density transitions in order to protect the integrity of existing land use patterns and minimize the impacts on existing uses and residents. It shall be County policy: 1. To locate lower residential densities adjacent to open space, areas of agricultural use, and existing lower density residential areas; 2. To locate higher residential densities in proximity to services, transit, and/or employment activity centers; 3. To require buffer lots in new residential developments that abut agricultural parcels.

LU 4-4 Ensure that zoning and land use designations at the Interstate 5 freeway interchanges at Artois, and the unincorporated areas near Willows and Orland are used for highway-oriented commercial uses. These uses, which include hotels, restaurants, and service stations, should be oriented to interstate travelers, tourists, and visitors to the County's various open space recreation and agricultural opportunities. Development at these interchanges should be planned to minimize traffic and safety hazards on local streets and regional transportation facilities to the extent feasible.

CIRCULATION ELEMENT POLICIES

CIR 1-2 Roadways shall be built to the standards defined by the Federal Highway Administration (FHWA) and Caltrans.

CIR 1-8 Update and maintain existing evacuation routes with particular attention paid to vulnerable communities located in flood zones and high fire hazard zones.

CIR 1-9 Maintain hazard and emergency responsiveness through a climate change vulnerability assessment that identifies measures to address vulnerabilities, respond to emergencies, and mitigate hazards.

CIRCULATION ELEMENT ACTIONS

CIR-1a Pursue all available sources of funding and protect existing sources for the development, improvement, and maintenance of the existing roadway system.

AGRICULTURAL LANDS ELEMENT POLICIES

AG 2-1 Recognize the potential restrictions urbanization places on nearby agricultural practices and mitigate such conflicts whenever possible.

AG 2-2 Continue to support the County's "right-to-farm" ordinance (Ord. 1183 § 2, 2006) and other local efforts aimed at reducing conflicts between urban uses and agriculture operations.

AG 2-3 As feasible, limit incompatible uses (i.e., schools, hospitals, and higher density residential) near intensive agricultural operations. Where uses such as country schools are located within agricultural areas, work with farmers and landowners to promote practices and methods aimed at reducing conflicts, which may include reductions in chemical applications, and dust abatement strategies.

AG 2-4 As feasible, utilize buffers such as greenbelts, drainage features, parks and trails, or other improved and maintained features in order to separate residential and other sensitive land uses, such as schools and hospitals, from agricultural lands and agricultural operations.

AGRICULTURAL LANDS ELEMENT ACTIONS

AG-2b Utilize the Agricultural Grievance Committee to review and recommend solutions related to agricultural land use conflicts and other grievances related to the urban-agricultural interface

AG-2c Review and update the County's right-to-farm ordinance to include agricultural buffer/setback requirements to reduce conflicts between agricultural and residential and non-residential sensitive urban uses. The onus for meeting the setback standards shall be placed on new proposed developments.

SAFETY ELEMENT POLICIES

SA 5-1 Ensure that land uses within the vicinity of airports and airstrips are compatible with airport restrictions and operations.

SA 5-2 Ensure that all development proposals in the vicinity of local airports are consistent with the restrictions and requirements contained in the Orland and Willows Airport Land Use Plans and Design Standards.

SAFETY ELEMENT ACTIONS

SA-5a As part of the development review process, new development and expansion proposals near the Orland and Willows Airports, and public and private airstrips shall be: Reviewed for consistency with setbacks, land use restrictions, and height as determined by the Federal Aviation Administration (FAA) and the County Airport Land Use Commission; Provided to the Airport Land Use Commission for review.

SA-5b As part of future planning efforts, the Department of Planning & Community Development Services shall review and provide input into updates to the Comprehensive Airport Land Use Plans to ensure that new development within Airport Safety Zones is compatible with existing airport operations, and that any changes or improvements to the airport facility or operations are compatible with land uses within this zone

CONCLUSION

The policies and actions related to land use, circulation, and safety in the proposed general plan emphasize land use compatibility, associated with safer combinations and speed differentials between types of transport. Therefore, this impact is considered *less than significant*.

Impact 3.14-4: General Plan implementation may cause inadequate emergency access (Less than Significant).

Emergency access to individual land use parcels is typically assessed at the project level, though the proposed general plan contains policies and actions (listed below) to address the needs of emergency responders and require consultation with the fire and sheriff departments during development review.

The proposed general plan would not interfere or create inconsistencies with the Glenn County Operational Area Emergency Operations Plan, though population and employment growth could require updates or modifications to the plan over time.

GENERAL PLAN POLICIES AND ACTIONS THAT MINIMIZE POTENTIAL IMPACTS

LAND USE ELEMENT POLICIES

LU 1-6 Locate new County government buildings and other public and quasi-public uses, such as hospitals, meeting halls, and private schools, in existing urbanized areas in convenient, central locations that provide maximum access for the maximum number of residents.

CIRCULATION ELEMENT POLICIES

CIR 1-8 Update and maintain existing evacuation routes with particular attention paid to vulnerable communities located in flood zones and high fire hazard zones.

CIR 1-9 Maintain hazard and emergency responsiveness through a climate change vulnerability assessment that identifies measures to address vulnerabilities, respond to emergencies, and mitigate hazards.

CIRCULATION ELEMENT ACTIONS

CIR-1j Conduct a climate change vulnerability assessment that identifies measures to address vulnerabilities, and comprehensive hazard mitigation and emergency response strategies.

CIR-1j Review and revise Glenn County Multi-Jurisdiction Hazard Mitigation Plan every five years, per Fire Hazard Planning Requirements.

CIR-1k Conduct a review of existing evacuation routes and update routes as needed.

FIRE PROTECTION AND LAW ENFORCEMENT ELEMENT POLICIES

CSF 5-2 Strive to maintain adequate fire services and law enforcement levels throughout the county.

CSF 5-3 Determine the impact proposed development will have on the provision of fire protection and law enforcement services, and ensure that the established level of service is maintained.

CSF 5-4 Establish and prioritize adequate funding and firefighting and law enforcement personnel for areas targeted for growth.

CSF 5-5 Regularly review and evaluate fire district boundaries to determine if the existing service areas are the most efficient and cost-effective.

CSF 5-8 Support the use of mutual aid agreements or memoranda of understanding for structural as well as wildland protection in areas currently under California Department of Forestry and U.S. Forest Service Jurisdiction.

CSF 5-12 Coordinate with the California Highway Patrol to assist with traffic enforcement services on County roadways.

CSF 5-13 Locate new essential public facilities, such as fire departments, sheriff's substations, and emergency evacuation centers outside of High and Very High Fire Hazard Zones.

FIRE PROTECTION AND LAW ENFORCEMENT ELEMENT ACTIONS

CSF-5c As part of the development review process for new projects, the County will refer applications to the local-serving Fire District, and Sheriff's Department for determination of the project's potential impacts on fire protection and law enforcement services.

SAFETY ELEMENT POLICIES

SA 3-1 Ensure that during natural catastrophes and emergency situations, the County can continue to provide essential emergency services.

SA 3-2 Ensure that new critical facilities are located in areas that minimize exposure to potential natural hazards.

SA 3-4 Ensure that critical facilities are properly supplied and equipped to provide emergency services.

SA 3-6 Support local and regional disaster planning and emergency response planning efforts, and look for opportunities to collaborate and share resources with other municipalities in the region

SA 3-8 Ensure that adequate two-way vehicular ingress and egress is maintained to critical facilities and residential development areas to provide for safe and efficient evacuation and access during an emergency event, particularly within areas subject to wildland fire hazards.

SAFETY ELEMENT ACTIONS

SA-3a Continue to implement the Local Hazard Mitigation Plan (LHMP) for Glenn County.

SA-3f Coordinate with the Glenn County Disaster Council and the Director of Emergency Services to update the Emergency Response Plan and LHMP periodically, as needed to meet existing and projected future emergency services needs throughout Glenn County.

SA-3g As part of the development review process, consult with the local fire department/district or CalFire in order to ensure that the project provides adequate emergency access.

The county does not have a travel demand model capable of forecasting travel time changes associated with new growth, which presents some uncertainty about how the effect that new growth will have on emergency access, response times, and evacuation times. A geographic analysis comparing the location of planned growth relative to Fire Hazard Severity Zones (FHSZ) found that none of planned growth areas in the proposed general plan are located in FHSZ. Planned growth is concentrated along I-5 in the eastern portion of the County, while the FHSZ are in the central area of the County. While it is possible that increased development under the general plan would increase traffic and delays that could affect emergency response and evacuation times, following the policies and actions listed above should provide for adequate emergency service access.

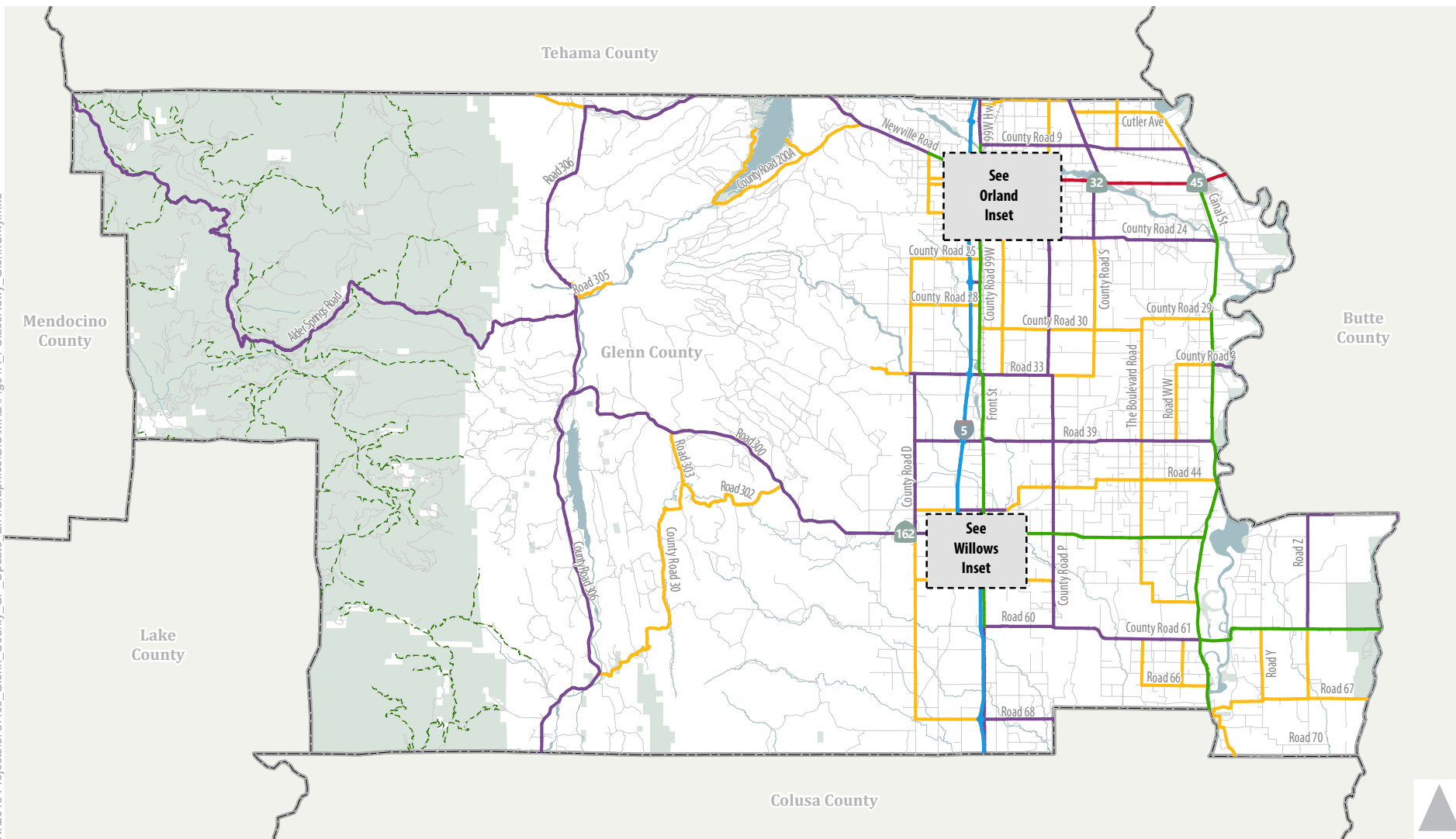
CONCLUSION

The proposed general plan policies and actions, which focus on providing essential emergency services through advance planning within the county (i.e. Glenn County Disaster Council, Fire District, and Sheriff's Department, etc.) and with external agencies (i.e. the California Highway Patrol, California Department of Forestry, U.S. Forest Service, etc.) should not result in a change or deterioration of emergency access and response times given the location and scale of population and employment growth projected in Glenn County. Therefore, this impact is considered ***less than significant***.

GENERAL PLAN POLICIES AND ACTIONS THAT MINIMIZE POTENTIAL IMPACTS

See Policies and Actions listed under Impacts 3.14-1 through 3.14-4.

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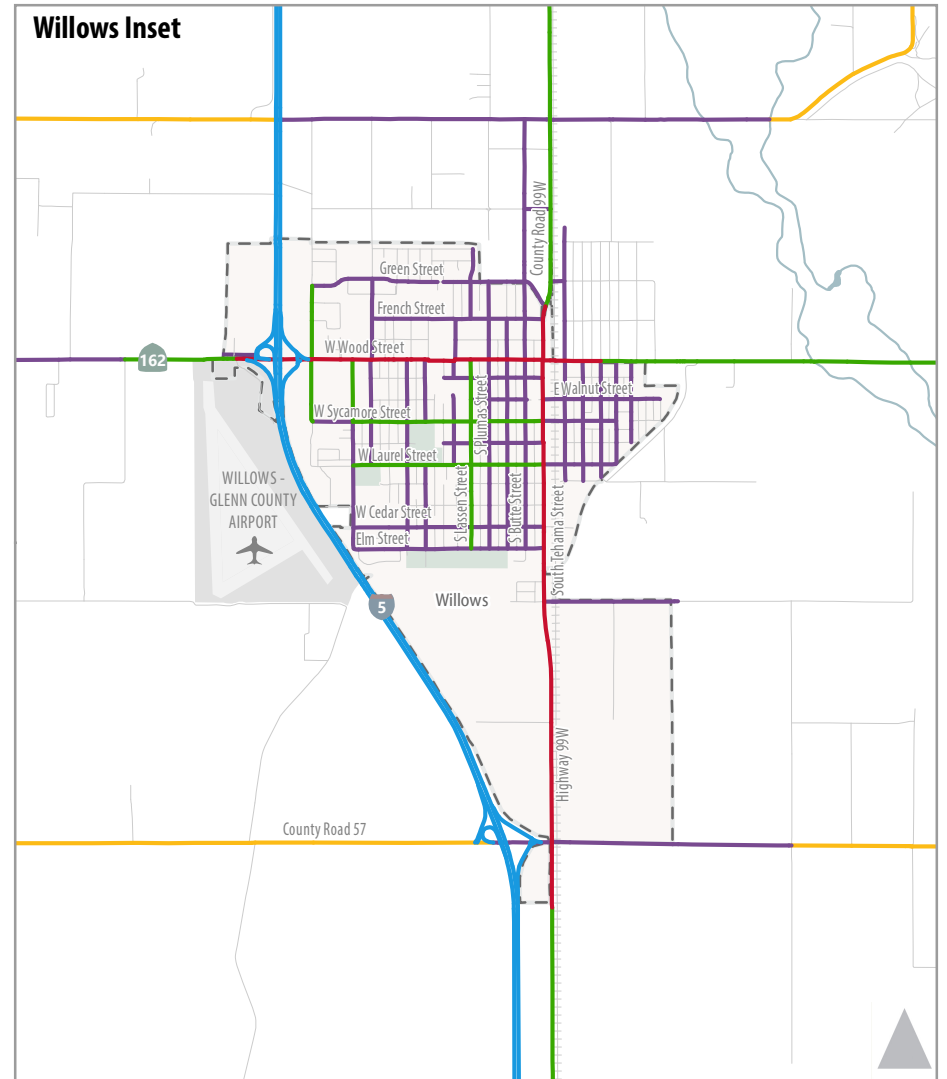
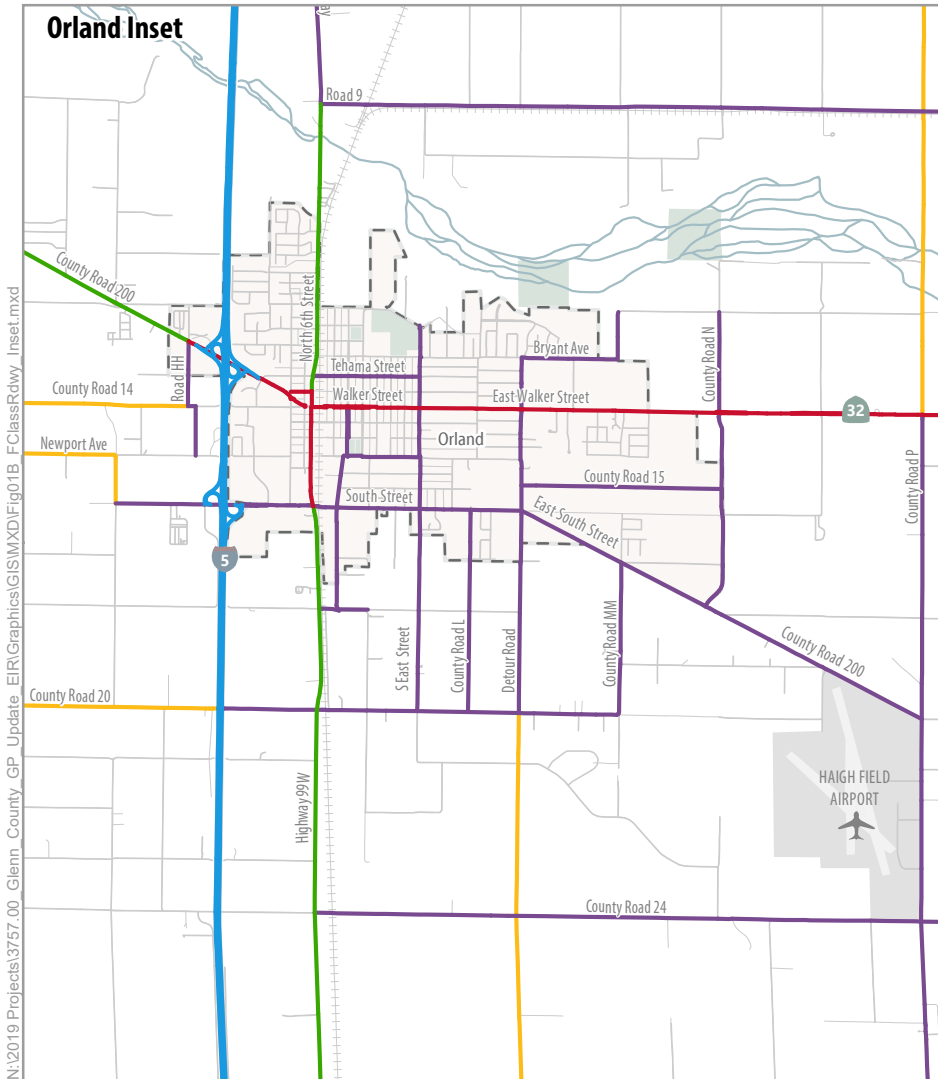
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|-------------------------------|---------------------------|----------------------------|-------------------|
| --- Forest Service Road | Functional Classification | — Other Principal Arterial | — Minor Collector |
| — Interstate | | — Minor Arterial | — Local |
| — Other Freeway or Expressway | | — Major Collector | |



Figure 3.14-1A

Glenn County Roadway System and Functional Classification

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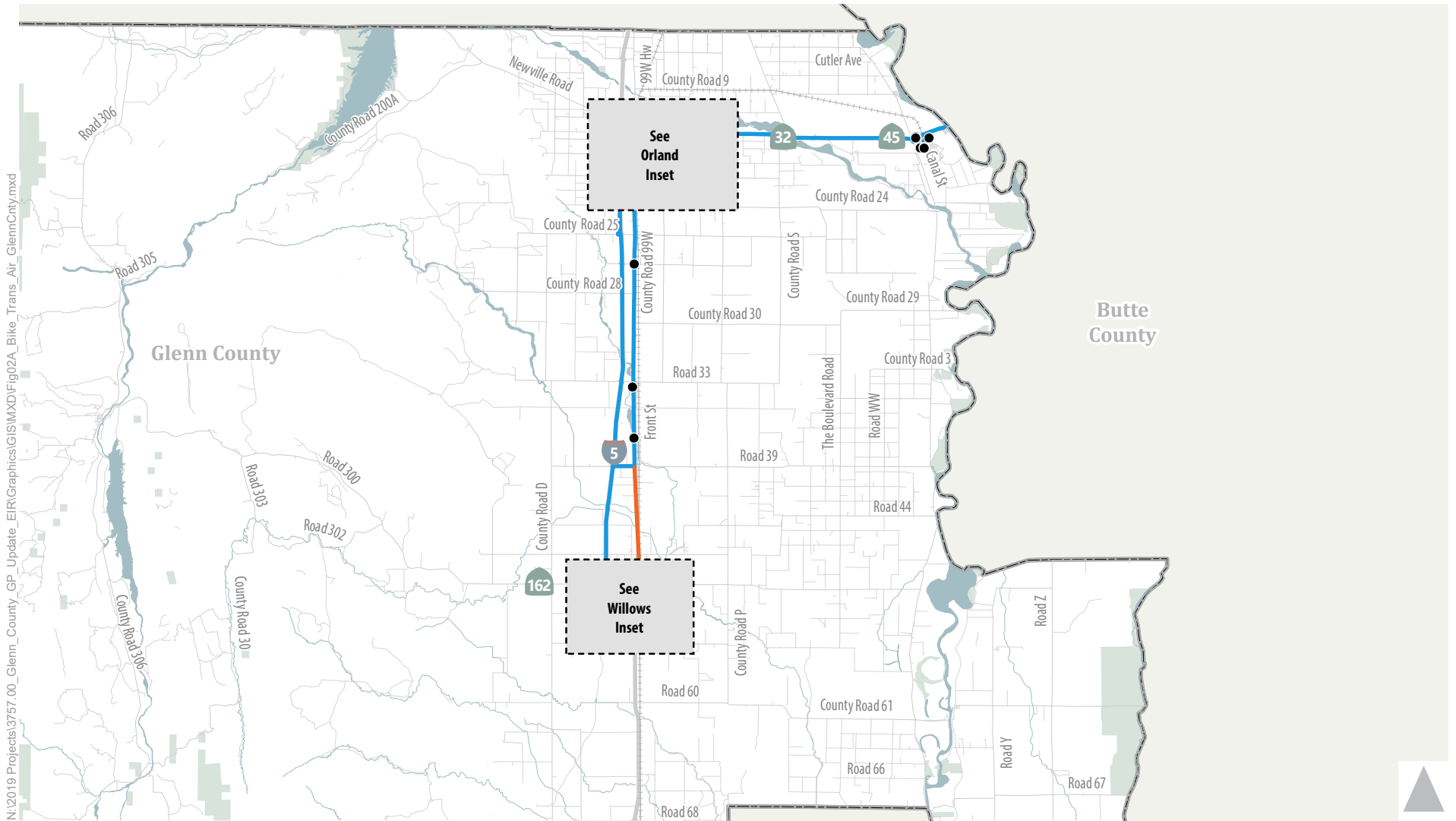
- Forest Service Road Functional Classification
- Interstate
- Other Freeway or Expressway
- Other Principal Arterial
- Minor Arterial
- Major Collector
- Minor Collector
- Local

Figure 3.14-1B

Glenn County Roadway System and Functional Classification - Orland and Willows Inset



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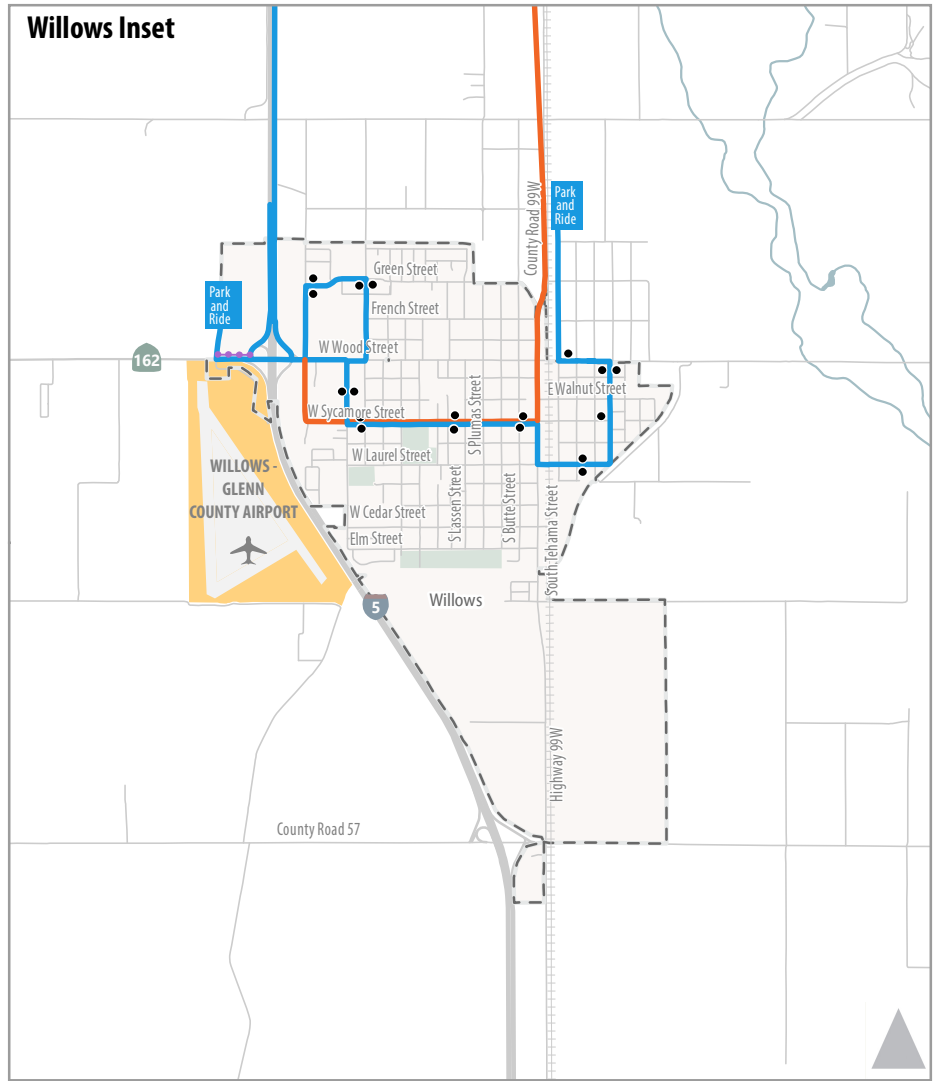


- Bus Stop
- GlennRide
- Bus Route
- Express Route



Figure 3.14-2A
 Glenn County Bikeways, Transit Service, and Airports

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- Bus Stop
- GlennRide
- Bus Route
- Express Route
- Bicycle Facilities
- Class II Bike Lane
- Airport Runway
- Airport Boundary



Figure 3.14-2B

Bikeways, Transit Service, and Airports - Orland and Willows Inset

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Utilities are critical to providing safe drinking water, disposal and treatment of wastewater (sewage), stormwater drainage, and solid waste disposal. This section provides a background discussion of the utility systems in Glenn County including water supplies, wastewater, storm drainage, and solid waste. This section is organized with an existing setting, regulatory setting, and impact analysis.

No comments were received during the Notice of Preparation (NOP) comment period regarding this environmental topic.

3.15.1 WATER SUPPLIES

KEY TERMS

Acre feet: The volume of one acre of water to a depth of one foot. Each acre-foot of water is equal to approximately 325,851.4 gallons.

BGS: Below ground surface.

GPD: Gallons per day.

GPM: Gallons per minute.

Groundwater: Water that is underground and below the water table, as opposed to surface water, which flows across the ground surface. Water beneath the earth's surface fills the spaces in soil, gravel, or rock formations. Pockets of groundwater are often called "aquifers" and are the source of drinking water for a large percentage of the population in the United States. Groundwater is often extracted using wells which pump the water out of the ground and up to the surface. Groundwater is naturally replenished by surface water from precipitation, streams, and rivers when this recharge reaches the water table.

MG: Million gallons

MGD: Million gallons per day

Surface water: Water collected on the ground or from a stream, river, lake, wetland, or ocean. Surface water is replenished naturally through precipitation, but is lost naturally through evaporation and seepage into soil.

WATER SUPPLIES

The majority of the unincorporated County is not served by water infrastructure and is dependent on wells. Community areas within the County are served by municipal systems and are described below. Water purveyors within the County are shown on Figure 3.15-1.

Potable Water/Public Water Systems

Numerous water companies and community services districts oversee the provision and development of water supplies for urban uses in Glenn County. These include the following urban water purveyors.

3.15 UTILITIES AND SERVICE SYSTEMS

California Water Service Company (Cal Water). Cal Water is an investor-owned public utility supplying water service to 1.7 million Californians through 435,000 connections. Its 24 separate water systems serve 63 communities from Chico in the North to the Palos Verdes Peninsula in Southern California. California Water Service Group, Cal Water's parent company, is also serving communities in Washington, New Mexico and Hawaii.

Cal Water incorporated in 1926 and has provided water service to the Willows community since 1927. As described in the District's 2015 Urban Water Management Plan the number of municipal connections in 2015 for the City of Willows was 2,371 service connections. Total system demand in 2015 was 1,044 AF. Residential customers account for approximately 85 percent of services and 69 percent of water use in the District, most of which is associated with single-family water use.

The City of Willows Water Department owns and operates a very small water system south of the District Cal Water boundary in the southernmost portion of the City of Willows.

Additionally, Cal Water has provided water utility services in the Hamilton City area since 1962. To meet the needs of Hamilton City customers, Cal Water utilize three wells to pump an average of 0.56 million gallons of groundwater per day, which is delivered through 7.7 miles of pipeline.

City of Orland. The City of Orland Public Works Department maintains the City water system from production at their wells through distribution to City water customers through 2,615 metered connections serving 2,315 residential water customers and 300 non-residential customers. The Public Works Department continuously monitors the quality of the water that is provided to its residents and holds the responsibility of providing safe drinking water, and meeting state water quality standards, as its highest priority. The City of Orland source of water is from six wells that are located at various areas within the City limits. These wells are continuously monitored and treated to meet or exceed State and Federal requirements. The City's water distribution system consists of approximately 34 miles of pipeline ranging in size from 4-inch diameter to 10-inch diameter. A network of 10-inch diameter water mains is planned to connect all of the wells, with 8-inch and 6-inch diameter distribution piping throughout the City. There are 303 public fire hydrants distributed throughout the City and a total of 14 private fire hydrants located at the fairgrounds, high school and Glenn County Public Works Corporation Yard. All of the buildings within the City are on water meters.

In 2014, the City of Orland Municipal Services Review identified that the City's water system includes six wells, with a capacity of approximately 5,070 gallons per minute. The Eva Drive Well was subsequently completed, providing capacity of over 6,000 gallons per minute. Water demand in the City ranged from 685 to 816 million gallons per year for the most recent study period (Rolls Anderson & Rolls, 2014). Under "High" growth rate conditions, the water service connections, serving an average of 2.66 persons per connection, were projected to increase from 2,817 (population of 7,501 persons) in 2011 to 4,615 (population of 12,276 persons) by 2028 (Rolls Anderson & Rolls, 2014). The "High" demand growth is anticipated to require one to two additional wells. The City's 2021 population was 8,527 persons and was well below the projected growth through 2028. Projecting growth to be accommodated through the 6th Cycle, the City has a RHNA allocation of 247 units (approximately 706 population) and Glenn County's planned growth around the City includes 90 units (approximately 254 population) anticipated to connect to the City's water system.

The City of Orland and Glenn County are working with the North Valley Community Foundation to improve the City's water system to allow residents in serviceable locations in the County whose private wells have gone dry to connect to the City's water system. The City has received almost \$8 million from the California Department of Water Resources Drought Relief funding and is in the process of developing new large-scale wells and water system improvements, including a new water storage tank, to increase system reliability and provide connections to City water for County residents.

The water rate, every two months, for a residence or commercial account within the City limits is \$61.35 plus \$1.65 for every 1,000 gallons of water used in excess of 15,000 gallons. Water customers outside of the City Limits are charged at twice the rate of the City residents.

The Water System Capacity Study identified system improvements, including the Eva Drive well (complete), a new potable water storage tank, improvements at the Central Street Well and Corporation Yard well sites, construction of an additional well, and water main replacements. These improvements are planned and are constructed as demand for improvements occurs.

Del Oro Water District. The Del Oro Water District serves the area known as Estates Subdivision Unit No. 1 and vicinity, located 1-1/2 miles northwest of Orland in Glenn County, California.

Elk Creek Community Services District. The Elk Creek CSD is located in western Glenn County approximately 22 miles west of the City of Willows. The Elk Creek CSD provides domestic water to the community of Elk Creek. As of the most recent MSR in 2014, there were 90 active water service connections. The Elk Creek CSD uses water from Stony Gorge Reservoir. The water is piped to the Elk Creek CSD's water treatment plan and is stored in a 300,000 gallon tank following treatment. The Elk Creek CSD had a 40-year contract with the Bureau of Reclamation for 100 acre-feet of water that has expired and has been working to secure a contract for 100 acre-feet of supplemental Central Valley project water.

Butte City Community Services District. The Butte City Community Services District (BCCSD) was formed in 1964 pursuant to the Community Services District law (Government Code Section 61000 et seq.) and declared to be a legal entity by the Glenn County Board of Supervisors on the 6th day of November, 1961. The BCCSD provides water services to the community of Butte City in the Eastern Area of Glenn County through 48 unmetered water service connections.

Artois Community Services District. The Artois Community Services District serve the community of Artois through 59 metered water service connections. According to the CSD areas within the SOI can be serviced.

WATER SUPPLIES AND DEMANDS

Calwater - Hamilton City

Calwater has provided water utility services in the Hamilton City area since 1962. To meet the needs of Hamilton City customers, Cal Water utilize three wells to pump an average of 0.56 million gallons of groundwater per day, which is delivered through 7.7 miles of pipeline. Groundwater will be used

to serve all demand through 2045. Groundwater supply amounts equal the projected demand in each year.

Calwater – Willows District

Groundwater is the sole source of water supply for the Willows District. The groundwater used by the Willows District is extracted from the Colusa Subbasin which underlies the District. The District has a total of seven wells (four active, three standby) located within the District service area.

There are two surface storage structures, enabling the groundwater wells to pump to storage during non-peak demand periods and provide peak day demand. The District has sufficient production capacity to supply all of the District’s current annual average day and maximum day demand.

Table 3.15-1 lists the amount of groundwater pumped by Cal Water over the past five years. The available groundwater supply has been sufficient to meet all of the District’s demands in the past five years and all prior years.

TABLE 3.15-1: GROUNDWATER VOLUME PUMPED

LOCATION OR BASIN NAME	GROUNDWATER VOLUME PUMPED (AF)				
	2016	2017	2018	2019	2020
Colusa Subbasin	1,037	1,154	1,152	1,147	1,316

NOTES:

(A) VOLUMES ARE IN UNITS OF AF.

(B) THE COLUSA SUBBASIN IS NOT ADJUDICATED, AND THE PROJECTED GROUNDWATER SUPPLY VOLUMES ARE NOT INTENDED TO AND DO NOT DETERMINE, LIMIT OR REPRESENT CAL WATER’S WATER RIGHTS OR MAXIMUM PUMPING VOLUMES. ANY DETERMINATION OF CAL WATER’S WATER RIGHTS, AS AN OVERLYING OWNER, APPROPRIATOR, MUNICIPAL WATER PURVEYOR OR OTHERWISE, IS BEYOND THE SCOPE OF THIS REPORT AND THE UWMP STATUTES AND REGULATIONS.

SOURCE: CALIFORNIA WATER SERVICE 2020 URBAN WATER MANAGEMENT PLAN - WILLOWS DISTRICT

PROJECTED POTABLE WATER DEMANDS AND SUPPLY (WILLOWS)

Projected water demands in the CalWater-Willows service area by customer category through 2045 are shown in Table 3.15-2. Future demands are estimated as the product of future services and expected water use per service.

TABLE 3.15-2 DEMANDS FOR POTABLE AND RAW WATER – PROJECTED

USE TYPE	PROJECTED WATER USE (AF)				
	2025	2030	2035	2040	2045
Single Family	849	922	924	926	933
Multi-Family	103	101	99	99	99
Commercial	384	425	422	624	622
Institutional/Governmental	62	61	60	59	59
Other	4	4	4	4	4
Landscape	0	0	0	49	49
Losses	125	105	106	115	116
Total	1,527	1,617	1,615	1,876	1,881

NOTES:

(A) VOLUMES ARE IN UNITS OF AF.

(B) REAL AND APPARENT LOSSES.

SOURCE: CALIFORNIA WATER SERVICE 2020 URBAN WATER MANAGEMENT PLAN - WILLOWS DISTRICT

Projected water supplies in the CalWater-Willows service area through 2045 are shown in Table 3.15-3. The 2020 UWMP presents an analysis of the availability of groundwater supply for the District based on historical groundwater use and review of relevant assessments conducted by the CGA and GGA GSAs as part of GSP development to date. Based on the available information, the available groundwater supply is expected to be sufficient to meet the projected future demands of the District in normal and multiple dry year periods through 2045.

TABLE 3.15-3 SUPPLIES FOR POTABLE AND RAW WATER – PROJECTED

WATER SUPPLY	PROJECTED WATER SUPPLY (AF)				
	2025	2030	2035	2040	2045
Groundwater	1,527	1,617	1,615	1,876	1,881

NOTES:

(A) VOLUMES ARE IN UNITS OF AF.

(B) THE COLUSA SUBBASIN IS NOT ADJUDICATED, AND THE PROJECTED GROUNDWATER SUPPLY VOLUMES ARE NOT INTENDED TO AND DO NOT DETERMINE, LIMIT OR REPRESENT CAL WATER’S WATER RIGHTS OR MAXIMUM PUMPING VOLUMES. ANY DETERMINATION OF CAL WATER’S WATER RIGHTS, AS AN OVERLYING OWNER, APPROPRIATOR, MUNICIPAL WATER PURVEYOR OR OTHERWISE, IS BEYOND THE SCOPE OF THIS REPORT AND THE UWMP STATUTES AND REGULATIONS.

SOURCE: CALIFORNIA WATER SERVICE 2020 URBAN WATER MANAGEMENT PLAN - WILLOWS DISTRICT

As described in the District’s UWMP, the projected supply and demand totals match. As discussed above, groundwater will be used to serve all demand through 2045, and the reasonably available volume of groundwater supply is anticipated to match demands through 2045 in each water year. Water supply and demand patterns change during normal, single dry, and multi dry years. Cal Water has relied on the demand modeling described to forecast demands for normal, single dry and multiple dry years. As described in the District’s UWMP, it is assumed that Cal Water’s groundwater supply for the Willows District will be able to serve those demands.

3.15 UTILITIES AND SERVICE SYSTEMS

WATER DISTRIBUTION (WILLOWS)

The City of Willows domestic water is supplied by the California Water Service Company except for a small area on the south side of Willows where water is supplied by the City. The City's small water system serves the property south of Road 53.

The District is owned and operated by California Water Service Company (Cal Water), an investor-owned water utility regulated by the California Public Utilities Commission (CPUC).

The District currently operates seven wells, two storage tanks, and 36 miles of pipeline to pump and delivers approximately one million gallons of local groundwater per day. The District delivers water to residential, commercial, industrial, and governmental customers. Residential customers account for most of the District's service connections and nearly three-quarters of its water demands.

Orland Water Service Area

Orland estimates it will have between 3,950 and 4,615 active water service connections by the year 2028. If the Orland General Plan's buildout assumes the "High" growth rate (4,615 active water service connections) the maximum daily demand in the year 2028 will be approximately 7,110 gallons per minute (gpm). The existing source capacity of approximately 5,130 gpm will have to be increased by 1,980 gpm to meet Orland's maximum daily demand under the "High" growth rate scenario, and an additional 1,500 gpm should be planned in the capacity upgrades to address coincident fire flow demand. As new development occurs during the planning period, new wells will be a requirement. The City collects a water connection impact fee to ensure that new development funds its fair-share of the cost of system improvements.

Elk Creek Community Services District. The Elk Creek CSD Municipal Services Review indicated that the CSD's has the capacity to provide water service for the community now and in the future. The MSR considered the ability of the Elk Grove CSD to provide infrastructure and services within the CSD's Sphere of Influence and concluded that the CSD has the capacity to provide water service, street lighting, and park services now and in the future. It is noted that the MSR considered the General Plan land use designations for the community and did not anticipate significant growth. The Proposed General Plan identifies growth consistent with the existing uses and anticipates growth consistent with the land used designations for the Elk Grove CSD and its SOI.

Butte City Community Services District. The BCCSD provides water services to the community of Butte City in the Eastern Area of Glenn County through 48 unmetered water service connections. The BCCSD maintains two pumps and pump houses. BCCSD is not anticipated to accommodate a significant number of new units during Planning Period.

Artois Community Services District. The Artois Community Services District serve the community of Artois through 59 metered water service connections. According to the CSD areas within the SOI can be serviced. The district operates 2 well that have a capacity of 90 connections per well and the district currently has only 59 connections. Therefore, the district estimates that the district is able to serve all units that may be developed during the planning period within the Services District.

REGULATORY SETTING – WATER SUPPLIES

STATE

California Department of Health Services

The Department of Health Services, Division of Drinking Water and Environmental Management, oversees the Drinking Water Program. The Drinking Water Program regulates public water systems and certifies drinking water treatment and distribution operators. It provides support for small water systems and for improving their technical, managerial, and financial capacity. It provides subsidized funding for water system improvements under the State Revolving Fund (“SRF”) and Proposition 50 programs. The Drinking Water Program also oversees water recycling projects, permits water treatment devices, supports and promotes water system security, and oversees the Drinking Water Treatment and Research Fund for MTBE and other oxygenates.

Consumer Confidence Report Requirements

California Code of Regulations (CCR) Title 22, Chapter 15, Article 20 requires all public water systems to prepare a Consumer Confidence Report for distribution to its customers and to the Department of Health Services. The Consumer Confidence Report provides information regarding the quality of potable water provided by the water system. It includes information on the sources of the water, any detected contaminants in the water, the maximum contaminant levels set by regulation, violations and actions taken to correct them, and opportunities for public participation in decisions that may affect the quality of the water provided.

Urban Water Management Planning Act

The Urban Water Management Planning Act has as its objectives the management of urban water demands and the efficient use of urban water. Under its provisions, every urban water supplier is required to prepare and adopt an urban water management plan. An “urban water supplier” is a public or private water supplier that provides water for municipal purposes either directly or indirectly to more than 3,000 customers or supplying more than 3,000 acre-feet of water annually. The plan must identify and quantify the existing and planned sources of water available to the supplier, quantify the projected water use for a period of 20 years, and describe the supplier’s water demand management measures. The urban water supplier should make every effort to ensure the appropriate level of reliability in its water service sufficient to meet the needs of its various categories of customers during normal, dry, and multiple dry years. The Department of Water Resources must receive a copy of an adopted urban water management plan.

Senate Bill (SB) 610 and Assembly Bill (AB) 901

The State Legislature passed SB 610 and AB 901 in 2001. Both measures modified the Urban Water Management Planning Act.

SB 610 requires additional information in an urban water management plan if groundwater is identified as a source of water available to an urban water supplier. It also requires that the plan include a description of all water supply projects and programs that may be undertaken to meet

total projected water use. SB 610 requires a city or county that determines a project is subject to CEQA to identify any public water system that may supply water to the project and to request identified public water systems to prepare a specified water supply assessment. The assessment must include, among other information, an identification of existing water supply entitlements, water rights, or water service contracts relevant to the identified water supply for the proposed project, and water received in prior years pursuant to these entitlements, rights, and contracts.

AB 901 requires an urban water management plan to include information, to the extent practicable, relating to the quality of existing sources of water available to an urban water supplier over given time periods. AB 901 also requires information on the manner in which water quality affects water management strategies and supply reliability. The bill requires a plan to describe plans to supplement a water source that may not be available at a consistent level of use, to the extent practicable. Additional findings and declarations relating to water quality are required.

Senate Bill (SB) 221

SB 221 adds Government Code Section 66455.3, requiring that the local water agency be sent a copy of any proposed residential subdivision of more than 500 dwelling units within five days of the subdivision application being accepted as complete for processing by the city or county. It also adds Government Code Section 66473.7, establishing detailed requirements for establishing whether a “sufficient water supply” exists to support any proposed residential subdivisions of more than 500 dwellings, including any such subdivision involving a development agreement. When approving a qualifying subdivision tentative map, the city or county must include a condition requiring availability of a sufficient water supply. The applicable public water system must provide proof of availability. If there is no public water system, the city or county must undertake the analysis described in Government Code Section 66473.7. The analysis must include consideration of effects on other users of water and groundwater.

LOCAL

Glenn County Water Quality Program

The Glenn County Water Quality Program if implemented through the Department of Environmental Health. The Water Quality Program is responsible for the enforcement of standards and codes regarding the construction and destruction of water wells, monitoring wells, exploratory soil borings and other special use wells.

The Glenn County Department of Environmental Health reviews and approves permit applications and conducts on-site inspections to verify proper seals, well locations and site information. All new wells must have an approved permit from the Environmental Health Department prior to the start of any construction. The purpose of the program is to protect groundwater quality and to ensure an adequate and safe drinking water supply for the residents of Glenn County. Improperly constructed, altered, maintained, or destroyed wells are a potential pathway for introducing poor quality water, pollutants, and contaminants into good-quality ground water.

Glenn Groundwater Authority

The Glenn Groundwater Authority (GGA) is a nine-member, multi-agency Joint Powers Authority (JPA) that was formed on June 20, 2017. The GGA is the Groundwater Sustainability Agency (GSA) responsible for implementation of the Sustainable Groundwater Management Act (SGMA) in the Glenn County portion of the Colusa Subbasin (5-21.52). The Board of the GGA is composed of representatives of the following:

County of Glenn, City of Orland, City of Willows, Glenn-Colusa Irrigation District, Glide Water District, Princeton-Codora-Glenn/Provident Irrigation District (1 seat), Orland-Artois Water District, and Kanawha Water District formed with the primary purpose to comply with and implement SGM

The Glenn Groundwater Authority was created by forming a Joint Exercise of Powers Agreement, signed by nine local agencies, with the purposes of being a Groundwater Sustainability Agency for the Glenn County portion of the Colusa Subbasin.

County Groundwater Management Plan

Groundwater management in Glenn County is conducted in accordance with the management objectives in the Glenn County Groundwater Management Plan. The Glenn County Groundwater Management Plan was adopted by the Board of Supervisors on February 15, 2000 (Ordinance 1115) and requires that basin management objectives (BMOs) for minimum groundwater levels, minimum water quality and maximum inelastic subsidence be established for each of the 17 subareas within the plan area which generally includes areas of the county where irrigated agriculture is conducted; primarily in the Valley portion of the county.

California Water Service Company 2020 UWMP – Willows/Hamilton City

Per CWC §10617, only urban water suppliers with 3,000 or more customers or supplying 3,000 or more acre-feet of water annually are required to complete an UWMP. Willows District is presently below both thresholds. However, Cal Water has elected to prepare plans for all the districts it operates regardless of their size because these plans are integral to Cal Water planning initiatives at both the enterprise-level and district-level, as well as important sources of information for broader regional planning efforts.

THRESHOLDS OF SIGNIFICANCE

Consistent with Appendix G of the CEQA Guidelines, the project will have a significant impact on the environment associated with Utilities if it will:

- Require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas or telecommunication facilities, the construction or relocation of which could cause significant environmental effects; and/or
- Have insufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years.

IMPACTS AND MITIGATION MEASURES

Impact 3.15-1: General Plan implementation would result in sufficient water supplies available to serve the County and reasonably foreseeable future development during normal, dry and multiple dry years (Less than Significant)

Implementation of the General Plan would result in increased population and employment growth within the Planning Area, and a corresponding increase in the demand for additional water supplies. As described in Chapter 2.0, buildout of the General Plan could yield a total of up to 6,583 housing units, a population of 17,089 people, 3,482,616 square feet of non-residential building square footage, and 4,949 jobs within the Unincorporated Planning Area. As described in Chapter 2.0, this represents development growth over existing conditions of up to 773 new housing units, 2,172 people, 531,250 square feet of new non-residential building square footage, and 745 jobs.

When comparing water demand to the supply available, it can be seen that the County is anticipated to have ample access to water, however this may require additional groundwater pumping to serve buildout of the General Plan as described in relevant management plans including the UWMPs from Calwater and the City of Orland projections.

Implementation of the General Plan would result in the need for additional water supply and associated infrastructure, including water treatment capacity, storage capacity, and conveyance facilities, to serve future growth.

Growth under the General Plan would generally be anticipated to increase the water need throughout the County and would require additional groundwater pumping and well development. However it should be noted that since some future development will occur on irrigated farm land, some of the water demand associated with the General Plan may be off-set by the conversion of irrigated farm land to developed land uses and there may be a net decrease in water demand with development under the General Plan due to the higher rate of water use of agricultural lands than of developed urban lands (e.g., 100% of new water demand in the community areas may be off-set by conversion from irrigated farmlands to developed uses.

The domestic water suppliers in Glenn County currently use groundwater only. While significant increases in groundwater pumping could lower groundwater levels, cause subsidence, decrease groundwater quality, and affect surface water flow and quality, the change in pumping to accommodate General Plan development is not substantial.

Future development and the related increase in demand for potable water supply would also require additional water wells, water treatment facilities, and water conveyance infrastructure. In communities such as Hamilton City, Artois, North Willows, and areas near Orland the basic system and existing and planned capacity is in place to accommodate growth, however each would require service extensions and capacity improvements. Additionally, other communities, and rural portions of the county such may require more significant infrastructure improvements to accommodate growth during the planning period. The infrastructure and facilities necessary to serve new growth

would involve development of some of these facilities on-site, some facilities off-site on appropriately designated land, and may also involve improvements to existing facilities and disturbance of existing rights-of-way. The specific impacts of providing new and expanded facilities cannot be determined at this time, as the General Plan does not propose development nor does it designate specific sites for new or expanded public facilities. Water supply facilities would be evaluated at a project-level in association with subsequent development projects. However, the facilities would be primarily provided on sites with land use designations that allow such uses and the environmental impacts of constructing and operating the governmental facilities would likely be similar to those associated with new development, redevelopment, and infrastructure projects under the General Plan, such as impacts associated with construction activities including air quality, drainage, and noise, and impacts associated with operation including traffic, noise, air quality, hazards, and land stability. These impacts would generally occur as described in the relevant chapters (Chapters 3.1 through 3.14, and 4.0) of this Draft EIR.

As future development and infrastructure projects are considered by the County, each project will be evaluated for conformance with the County's General Plan, Zoning Ordinance, the Groundwater Management Plans, and other applicable regulations. Subsequent development and infrastructure projects would also be analyzed for potential environmental impacts, consistent with the requirements of CEQA.

The General Plan includes policies and actions designed to ensure an adequate water supply for development and to minimize the potential adverse effects of increased water use. Policy CSF 1-1 calls for the County to coordinate with local water districts and providers to ensure safe drinking water standards are met, and to ensure the water system and supply adequately meets the needs of existing and future development. Policy CSF 1-2 encourages and supports the expansion of municipal water systems to serve areas identified for current and future development by the General Plan Land Use Map, and Policy CSF 1-4 requires the County coordinate with the Glenn Groundwater Authority and water providers throughout the County to manage water supplies in a way that ensures adequate supplies for existing residents, agricultural uses, businesses, and for projected growth, in a manner which avoids groundwater overdraft, water quality degradation and other adverse environmental impacts.

Implementation of the General Plan, County Codes, and the County's Groundwater Management Plans would ensure that new development is only approved if there is adequate water supply and measures are implemented to reduce water demand. The proposed General Plan includes a range of policies designed to ensure an adequate water supply for development and to minimize the potential adverse effects of increased water use. Given that projected water demands associated with General Plan buildout would not be expected to exceed the projected available water supplies, and that the proposed General Plan includes a comprehensive set of goals and policies to ensure an adequate and reliable source of clean potable water, impacts associated with water supplies are **less than significant**. The policies listed below would further assist in ensuring that adequate water supplies are available to serve new growth projected under the proposed General Plan.

GENERAL PLAN MINIMIZATION MEASURES

COMMUNITY SERVICES AND FACILITIES ELEMENT POLICIES

CSF 1-1 Coordinate with local water districts and providers to ensure safe drinking water standards are met, and to ensure the water system and supply adequately meets the needs of existing and future development.

CSF 1-2 Encourage and support the expansion of municipal water systems to serve areas identified for current and future development by the General Plan Land Use Map.

CSF 1-3 Prior to the approval of new development projects, Specific Plans, or other projects that would result in increased demand for public water conveyance and treatment, projects must demonstrate proof of adequate water supply and that existing services are adequate to accommodate the increased demand, or improvements to the capacity of the system to meet increased demand will be made prior to project implementation. Projects must also demonstrate that adequate fire flow water pressure is available to serve new development, particularly within High and Very High Fire Hazard Zones.

CSF 1-4 Coordinate with the Glenn Groundwater Authority and water providers throughout the County to manage water supplies in a way that ensures adequate supplies for existing residents, agricultural uses, businesses, and for projected growth, in a manner which avoids groundwater overdraft, water quality degradation and other adverse environmental impacts.

CSF 1-5 Municipal services, including water and wastewater infrastructure, should only be extended to lands designated as Urban Reserve (UR) if the following conditions are met:

1. The proposed development area is adjacent to existing development that is substantially built-out, and the extension of services would not facilitate leapfrog development;
2. The development is able to extend and connect to water and wastewater services needed to serve the proposed development without impacting existing services; and
3. The proposed development has agreed to fund the necessary extensions and any required improvements needed to serve the development.

CSF 1-6 Support efforts by public water service providers to establish rates and fees which provide adequate funding for necessary system improvements, upgrades and maintenance.

CSF 1-7 Ensure that infrastructure is planned and available in a timely manner to accommodate development needs.

CSF 1-8 Prioritize water system improvements to areas prioritized for economic growth for commercial and industrial development as well as related housing needs.

CSF 1-9 Ensure that all new development provides for and funds its fair share of the costs for adequate water distribution, including line extensions, easements, and dedications.

CSF 1-10 Support water conservation measures that comply with the State and Federal legislation and that are consistent with measures adopted in all applicable Urban Water Management Plans, Agricultural Water Management Plans and Groundwater Management Plans.

CSF 1-11 New development on parcels served by a public water system shall be required to connect to the public water system. Redevelopment, additions and accessory structures in existing Rural Residential and Urban Reserve parcels that are not served by a public water utility, and all rural areas of the county may continue to utilize an on-site well if approved by the County Department of Environmental Health.

CSF 1-12 All new wells must have an approved permit from the Environmental Health Department prior to the start of any new construction.

COMMUNITY SERVICES AND FACILITIES ELEMENT ACTIONS

Action CSF-1a Coordinate with local water agencies to assist in planning for adequate public services to support new residential, commercial, and industrial development in existing community areas where development may be desired.

Action CSF -1b Encourage the cities of Orland and Willows as well as local water agencies to apply for available State and Federal grants and loans to finance construction of necessary water infrastructure improvements.

Action CSF-1c Coordinate with the cities of Willows and Orland to annex areas of existing or planned urban residential development that are adjacent, or in close proximity, to the City limits, which are not currently served by municipal water and wastewater services.

Action CSF -1d Continue to utilize the Glenn County Water Quality Program (implemented through the Department of Environmental Health) for the enforcement of standards and codes regarding the construction and destruction of water wells, monitoring wells, exploratory soil borings and other special use wells.

CONSERVATION AND OPEN SPACE ELEMENT POLICIES

COS 6-1 Protect floodways and other areas with high groundwater water recharge capability.

COS 6-2 Require discretionary projects, as well as new flood control and stormwater conveyance projects, to integrate best management practices (BMPs) and natural features to the greatest extent feasible, while ensuring that these features adequately convey and control stormwater to protect human health, safety, and welfare while promoting water quality objectives.

COS 6-3 Protect surface water quality and prioritize the use of natural features such as bioswales, vegetation, retention ponds, and other measures to remove surface water pollutants prior to discharge into surface waters.

COS 6-4 Promote water conservation among all water users.

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COS 6-5 Support and promote the use of drought tolerant and regionally native plants in landscaping.

COS 6-6 Monitor groundwater extraction activities and ensure the health of the groundwater basin.

COS 6-7 Support the Colusa and Glenn Groundwater Authority's (CGA) Colusa Subbasin Groundwater Sustainability Plan and groundwater objectives.

COS 6-8 Collaborate with water suppliers and wastewater treatment plant operators to increase the availability of treated or recycled water for agricultural purposes.

COS 6-9 Encourage the development of water conservation programs by water purveyors for both agricultural and urban uses.'

COS 6-10 Recognize the impacts of gravel extraction on groundwater quantity and quality and encourage extraction methods that preserve and enhance groundwater resources.

COS 6-11 Recognize that efforts to reserve water in Glenn County for wildlife may also bring long-term benefits to the effort to retain water resources locally.

COS 6-12 Monitor actions taken at the State and Federal level which impact water resources in order to evaluate the effects of these actions on the county's resources.

COS 6-13 Encourage development of educational programs to increase public awareness of water conservation opportunities and the potential benefits of implementing conservation measures and programs.

COS 6-14 Work with State and Federal agencies to improve local surface and groundwater pollution detection and monitoring.

COS 6-15 Support water development, treatment, and storage projects that are needed to meet existing and future local and regional demand.

COS 6-16 Participate in and collaborate with Butte, Colusa and Tehama counties, and other regional groundwater management agencies to support and promote Groundwater Sustainability Plans and implementation strategies for the groundwater basin.

COS 6-17 Support ongoing regulatory and compliance efforts at the Federal and State level for the protection of water quality.

COS 6-18 Support the Rice Herbicide Action Plan and encourage other agricultural practices which reduce the threat of surface water pollution from agricultural chemical use.

COS 6-19 Promote the use of surface water resources when available to offset groundwater extraction.

COS 6-20 Encourage efficient uses of water produced within the county and discourage out of county water transfers.

COS 6-21 Encourage solar farming and other water saving farming related opportunities in areas where water resources are not viable or available, or if future climate conditions render traditional farming practices and crop types un-viable.

CONSERVATION AND OPEN SPACE ELEMENT ACTIONS

Action COS-6a Adopt a Water Efficient Landscaping Ordinance (or the CA – MWELO) for residential, park, recreational, and commercial uses, based on the State model ordinance as amended to address local concerns. The ordinance should address: residential, commercial, industrial and institutional projects that require a permit, plan check, or design review.

Action COS-6b Update the County Code to incorporate standards for new development and infrastructure projects to incorporate Low Impact Development (LID) measures into site designs to reduce pollutants from non-point sources, incorporate LID infrastructure, and encourage greater use of permeable paving surfaces.

Action COS-6c Continue to implement the policies, actions, and Basin Management Objectives (BMOs) contained in the Colusa Subbasin Groundwater Sustainability Plan.

Action COS-6d Continue to cooperate with and foster regional cooperation with CGA Member Agencies including: County of Colusa, City of Colusa, City of Williams, Colusa County Water District, Glenn-Colusa Irrigation District Princeton-Codora-Glenn Irrigation District and Provident irrigation District, Maxwell Irrigation District and Westside Water District, Reclamation Districts 108 and 479, Colusa Drain Mutual Water Company, Private Pumpers, and other relevant parties involved in groundwater extraction.

Action COS-6e Continue to review well permit applications for compliance with County Code Title 20 Chapter 80 Water Well Drilling Permits & Standards.

Action COS-6f Continue to require implementation of the County's Grading Ordinance. Review projects to ensure that BMPs are implemented during construction and site grading activities as well as in project design to reduce pollutant runoff into water bodies.

Action COS-6g Coordinate with the California Department of Fish and Wildlife to identify adversely impacted aquatic habitat within the County and to develop riparian management guidelines to be implemented by development, recreation, and other projects adjacent to rivers, lakes, reservoirs, and streams.

Action COS-6h Continue to identify stormwater and drainage facilities in need of repair and address these needs through the Capital Improvement Project list and process. As feasible seek to incorporate BMPs and LID techniques into repairs and upgrades that promote water quality objectives.

Impact 3.15-2: General Plan implementation may require or result in the construction of new water treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects (Less than Significant)

Development and growth in the County under the proposed General Plan may result in increased demand for water supplies, including water conveyance and treatment infrastructure. The proposed General Plan includes policies and actions to ensure that water supplies are provided at acceptable levels and to ensure that development and growth does not outpace the provision of available water supplies.

As described previously, the projected water supplies are anticipated to be adequate to meet demand that would be generated by buildout of the General Plan. As such, implementation and buildout of the General Plan would not result in the need to construct or expand water supply and treatment facilities that have not already been described and accounted for in the Districts' relevant water master plans, and 2020 UWMPs.

As future development and infrastructure projects are considered by the County, each project will be evaluated for conformance with the General Plan, County Code, and other applicable regulations. Subsequent development and infrastructure projects would also be analyzed for potential environmental impacts, consistent with the requirements of CEQA.

The proposed General Plan includes a range of policies (listed above) to ensure that water providers serving the county are consulted with during future development and land use changes in order to ensure that future supply levels meet demands. Future development would be required to connect to existing water distribution infrastructure in the vicinity of each site as feasible in areas serviced by community systems, pay the applicable water system connection fees, and pay the applicable water usage rates. Additionally development in rural areas of the county would require the installation of onsite wells which must have an approved permit from the Environmental Health Department prior to the start of any new construction. Future projects may be required to implement site specific and limited off-site improvements to the water distribution system in order to connect new project sites to the existing water infrastructure network. The specific impacts of providing new and expanded water distribution infrastructure cannot be determined at this time, as the General Plan does not propose or authorize any specific development projects or include details on any future development projects. However, any future improvements to the existing water distribution infrastructure would be primarily provided on sites with land use designations that allow for urbanized land uses, and the environmental impacts of constructing and operating the new water distribution infrastructure would likely be similar to those associated with new development, redevelopment, and infrastructure projects under the proposed General Plan. Therefore, this impact is considered **less than significant** and no additional mitigation is necessary.

GENERAL PLAN MINIMIZATION MEASURES

See Policies and Actions listed under Impact 3.15-1.

3.15.2 WASTEWATER

KEY TERMS

Effluent: Effluent is an outflowing of water from a natural body of water, or from a man-made structure. Effluent in the man-made sense is generally considered to be water pollution, such as the outflow from a sewage treatment facility or the wastewater discharge from industrial facilities. In the context of waste water treatment plants, effluent that has been treated is sometimes called secondary effluent, or treated effluent.

NPDES: Water pollution degrades surface waters making them unsafe for drinking, fishing, swimming, and other activities. As authorized by the Clean Water Act, the National Pollutant Discharge Elimination System (NPDES) permit program controls water pollution by regulating point sources that discharge pollutants into waters of the United States. Point sources are discrete conveyances such as pipes or man-made ditches. Individual homes that are connected to a municipal system, use a septic system, or do not have a surface discharge do not need an NPDES permit; however, industrial, municipal, and other facilities must obtain permits if their discharges go directly to surface waters.

WWTP: Wastewater treatment plant. Treatment of wastewater may include the following processes: screening to remove large waste items; grit removal to allow sand, gravel, and sediment to settle out; primary sedimentation where sludge can settle out of the wastewater; secondary treatment to substantially degrade the biological content of the sewage; tertiary treatment to raise the quality of the effluent before it is discharged; and, discharge.

WASTEWATER TREATMENT

Community Systems

The communities of Orland, Willows, Hamilton City, and Northeast Willows, are served by community systems for wastewater disposal and treatment, as described in greater detail below. Additionally the Parkway Estates development has its own onsite systems for wastewater disposal.

Hamilton City CSD. The Hamilton City CSD has 708 sewer connections. Of these 606 are residential, 29 are business, 3 are industrial, 6 are governmental, 8 are school and 56 are “other” connections.

The Hamilton City CSD wastewater treatment facilities are located southeast of Hamilton City (Assessor's Parcel Number 032-250-002-9). The wastewater treatment plant (WWTP) is governed by Waste Discharge Requirement Order No. 98-081 adopted by the California Regional Water Quality Control Board, Central Valley Region. The wastewater collection system has a capacity of 500,000 gpd. As specified in the California Regional Water Quality Control Board Central Valley Region, Order No. 98-081, the 30-day average dry-weather discharge is 500,000 gallons.

The wastewater treatment facility was constructed from 1966 to 1969 and started operation in 1969. At that time, the District constructed the stabilization ponds and discharged the treated wastewater to Dunning Slough. Later the District ceased discharging to the Slough and on March 26,

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1976, the California Regional Water Quality Control Board revised the waste discharge requirements to prohibit discharges of waste from the facility to surface waters. On January 23, 1987, the Regional Water Quality Control Board updated the waste discharge requirements and included a limit on the 30-day average daily dry weather discharge flow to the ponds to 0.5 million gallons.

The wastewater treatment facility includes seven stabilization ponds designed to treat a maximum daily dry weather influent flow of 0.5 million gallons, with a dry weather influent rate of 0.222 to 0.230 million gallons per day. The ponds range in size from two to four acre-feet. Total pond storage, while providing a minimum vertical clearance of two feet from the surface of wastewater in the ponds to the top of pond levees (free board") is approximately 18 acre-feet.

According to the CSD the WWTP has the capacity to serve an additional 700-800 dwelling units¹. As such, this facility has the capacity to serve the additional housing sites identified for this service area in this element.

Northeast Willows CSD. The Northeast Willows Community Services District was formed in 1965 and provides for the collection, treatment or disposal of sewage from the district and its inhabitants. However, the District only provides directly for the collection of wastewater, and wastewater treatment is provided by the City of Willows under a Joint Powers Agreement. The City of Willows owns the wastewater collection system within the City and the treatment and disposal system that provides sewerage service to the Northeast Willows CSD. The City provides or can contract for all maintenance, including routine inspection, rodding, balling, flushing, plugging, and the making of minor repairs, excluding replacement and installation of lines and pipes, to the entire sewage collection system, main trunk sewers and facilities. In practice, the City of Willows' contract staff provides collection and treatment, maintains and cleans the system, and inspects any new connections or upgrades. The CSD includes 300 residential sewer service connections within its service area.

The Northeast CSD wastewater treatment facilities are located at 1600 S. Tehama Street, Willows. The wastewater treatment plant (WWTP) is governed by Waste Discharge Requirement Order No. R5-2006-0009 adopted by the California Regional Water Quality Control Board, Central Valley Region. The WDR Order regulates the discharge of wastewater from the Willows WWTP to Agricultural Drain C and Glenn-Colusa Irrigation District Lateral 26-2, both are tributaries to the Colusa Basin Drain.

There are no waste discharge specifications specifically for the Northeast Willows CSD because the wastewater collected is treated by the City of Willows. The CSD has an agreement with Willows for wastewater treatment at the WWTP for up to 96,000 gallons per day, and the CSD currently sends approximately 48,000 gallons per day to the WWTP.²

City of Orland. The City of Orland's wastewater collection system consists of 30 miles of sanitary sewer main and 400 sanitary sewer manholes. The sewer mains range in size from 6-inch diameter to 24-inch diameter vitrified clay and concrete pipe, with some PVC in recently developed areas.

¹ Hamilton City Community Services District Hamilton City, correspondences 4/22

² Phone Interview with Willows Community Services Director Steve Soeth 11/14/2019

There are four sanitary sewer lift stations operating within the collection system. Each lift station serves an area of less than 20 acres.

The domestic wastewater treatment facility consists of four unlined evaporation ponds and a 44-acre irrigation field. The field is flood irrigated with wastewater following pond treatment an average of two times per week during the winter and every other week during the summer. The irrigation field has a capacity of 19.6 million gallons. The four domestic wastewater ponds were constructed in 1958 to accommodate an average flow of 2.13 million gallons per day (MGD) and a peak flow of 6.08 MGD. The domestic wastewater flow currently averages 0.72 MGD, with a peak flow of 1.24 MGD.

The industrial brine ponds were designed in 1983 to receive an average of 4.2 million gallons per year from surrounding processing facilities. The industrial class II surface impoundments consist of two lined evaporation ponds covering a total of 5.3 acres and have a total volume of 8 million gallons. Each pond is designed to receive 2.5 million gallons of wastewater per year, allowing for one pond to be dewatered and inspected annually while the other remains in service. Industrial wastewater has been segregated from the City of Orland's domestic wastewater since 1 October 1985. In 2009, the facility received a total industrial wastewater volume of 3.7 million gallons.

The class II surface impoundments are constructed with a single 30 mil PVC liner in 1985 and covered with 12 inches of soil. In 1995, a leachate collection and recovery system (LCRS) was installed within the existing soil cover material. The soil was then covered with a sand layer and a new 40 mil minimum Hypalon® (chlorosulfonated polyethylene) liner was placed over the sand layer. The combination of two synthetic liners with an intervening LCRS is an engineered alternative to the prescriptive requirements in Title 27.

According to the Orland General Plan Draft Environmental Impact Report population projections for Orland predict that by 2027 (the life of the revised General Plan), the population will be between 8,974 and 10,495. The wastewater treatment plant can support a population of approximately 12,000.

Existing flows into the treatment plant and system capacities are as follow:

- Average Flow = 0.65 MGD (Million Gallons per Day)
- Peak Flow = 1.12 MGD
- Capacity of the Collection System = 3.4 MGD (based on peak flow)
- Capacity of the Wastewater Treatment Plant = 2.1 MGD (based on average flow)
- Based on these numbers the system is currently operating at about 31-percent of its capacity

Results from the Sewer Master Plans Capacity Analysis show the current sewer lines have enough capacity for the next twenty years and the wastewater ponds are at approximately 34% of their designed capacity. At this time the Master Plan does not make any recommendations for increasing the capacity of the sewer lines or treatment ponds. The wastewater treatment plant is currently operating at approximately 31% of its total capacity and is expected to have sufficient capacity for

3.15 UTILITIES AND SERVICE SYSTEMS

the next 45 to 50 years. Thus the WWTP has adequate capacity to serve all RHNA units allocated to the City of Orland and Unincorporated areas surrounding the city.

City of Willows. The City of Willows operates and maintains the sewer system consisting of gravity sewers and pumping stations to collect wastewater from residential and commercial customers. The collected wastewater is discharged to trunk sewers and interceptors owned and operated by the City of Willows and conveyed to the Willows Wastewater Treatment Plant for treatment.

The WWTP is owned and operated by the City and serves the population of Willows and the Northeast Willows Community Services District. The WWTP produces disinfected tertiary recycled water through extended aerated ponds, clarifiers, filtration, chlorine disinfection and dechlorination. There are 2,255 residential connections and 222 commercial/industrial connections.

The City entered into an agreement with Solar Power Partner, LP (SPP) in 2013 to provide solar power at the City's Wastewater Treatment Plant. Under the agreement SPP provided solar array equipment and the City provided the underlying real property for the solar array. The City will purchase the power generated by the array for a period of 20 years from SPP, with an option to take ownership of the array at the end of the 20-year period.

According to the Sewer Master Plan of 2008, the wastewater collection system consists of 29 miles of Vitrified Clay Pipe (VCP) and some Polyvinyl Chloride Pipe (PVC) and Asbestos Cement sewer mains ranging in size from four inches to eighteen inches in diameter with five small-capacity pump stations.

Water entering the collection system through defective cleanouts, joints and pipes, and manhole walls can be attributed to groundwater, commercial/industrial uses and storm runoff. Limited efforts have been completed to upgrade the system. Thus, infiltration and inflow (I&I) is becoming a problem to the system. Infiltration and inflow are significant in the piping tributaries to the Sycamore Lift Station according to the Sewer Master Plan

The original Wastewater Treatment Plant was constructed in 1948 and later upgraded in 1992. In 2007, the City of Willows completed a major upgrade to the wastewater treatment plant (WWTP) by increasing the treatment capability from secondary to tertiary quality effluent with a rated capacity of 1.2 mgd (million gallons per day). The treatment system includes influent screening, extended aeration (biolac system), activated sludge with two secondary clarifiers, nine continuous backwash sand filters, disinfection with sodium hypochlorite, dechlorination using sodium bisulfite injection, equalization and emergency storage ponds, and sludge storage lagoons. The WWTP currently has a daily dry weather average flow of approximately 0.650 million gallons per day (650,000 gallons per day) from all customers in Willows WWTP service area.

As described previously, the City of Willows owns the wastewater collection system within the City and the treatment and disposal system that provides sewerage service to the Northeast Willows CSD. In 2007, the City of Willows completed a major upgrade to the wastewater treatment plant (WWTP) by increasing the treatment capability from secondary to tertiary quality effluent with a rated capacity of 1.2 mgd. As of 2020, the average daily dry weather influent flow into the WWTP is 650,000 gallons per day and a remaining capacity of approximately 550,000 gallons per day which

is adequate to serve development anticipated within the Northeast Willows unincorporated Planning Area. Additionally, the plant design allows for additional modules to be added on, expanding the plant to meet needs as they arise.

REGULATORY SETTING - WASTEWATER

STATE

State Water Resources Control Board/Regional Water Quality Control Board

In California, all wastewater treatment and disposal systems fall under the overall regulatory authority of the State Water Resources Control Board (SWRCB) and the nine California Regional Water Quality Control Boards (RWQCBs), who are charged with the responsibility of protecting beneficial uses of State waters (ground and surface) from a variety of waste discharges, including wastewater from individual and municipal systems. The County falls within the jurisdiction of the Central Valley RWQCB.

The RWQCB's regulatory role often involves the formation and implementation of basic water protection policies. These are reflected in the individual RWQCB's Basin Plan, generally in the form of guidelines, criteria and/or prohibitions related to the siting, design, construction, and maintenance of on-site sewage disposal systems. The SWRCB's role has historically been one of providing overall policy direction, organizational and technical assistance, and a communications link to the State legislature.

The RWQCBs may waive or delegate regulatory authority for on-site sewage disposal systems to counties, cities or special districts. Although not mandatory, it is commonly done and has proven to be administratively efficient. In some cases, this is accomplished through a Memorandum of Understanding (MOU), whereby the local agency commits to enforcing the Basin Plan requirements or other specified standards that may be more restrictive. The RWQCBs generally elect to retain permitting authority over large and/or commercial or industrial on-site sewage disposal systems, depending on the volume and character of the wastewater.

LOCAL

City of Willows Sewer Master Plan (2008)

The City's 2008 Sewer Master Plan includes a description and maps of the City's wastewater collection system, system-wide flow projections, hydraulic models of system flows, an analysis of the system's capacity, a summary of system capacity improvements that are needed, and a summary of the current related CIP schedule and costs for wastewater system improvements.

Community Systems Regulation

The RWQCB has direct oversight and permitting responsibility for large-flow systems of greater than 2,500 GPD and community systems, unless the RWQCB chooses to waive that authority and delegate their oversight to the County on a case-by-case basis. Some community systems in the County fall

within Public Utility Districts (PUDs), which have assumed responsibility for oversight and/or maintenance of the infrastructure. In these cases, the PUD is considered the responsible party (discharger) under terms of the permit issued by the RWQCB.

Individual On-site Sewage Disposal System Regulations

Regulation of individual on-site sewage disposal systems in unincorporated Glenn County occurs at a variety of levels, including by the SWRCB, through the Central Valley RWQCB, and locally, by the County.

Counties typically regulate septic systems via their Environmental Health and/or Building or Planning Departments. In Glenn County, septic systems are regulated by the Department of Environmental Health. Local septic system ordinances often incorporate portions of the Uniform Plumbing Code and other specific requirements.

Regional Water Quality Control Board Basin Plan for the Central Valley

The Central Valley RWQCB has adopted policies and requirements pertaining to on-site sewage disposal systems, commonly referred to as the Basin Plan.

The on-site sewage disposal systems element of the Basin Plan sets forth various objectives, guidelines, general principles and recommendations for the use of on-site sewage disposal systems that cover a variety of topics. Mandatory requirements for the siting and design of on-site sewage disposal systems are reflected in the Basin Plan. Included for all on-site sewage disposal systems are specific criteria related to separation distances to groundwater, setbacks to water features, soil conditions, percolation rates, special design systems, and leachfield replacement area. Further discussion of these criteria is provided later in this section.

Glenn County Administrative Code Chapter 20.06 - Sewage Disposal Regulations

Glenn County Administrative Code Chapter 20.06 includes requirements for sewage disposal and onsite septic system requirements including requirements for septic application, site evaluation, soil conditions, percolation testing, verification and monitoring and other site requirements and conditions.

THRESHOLDS OF SIGNIFICANCE

Consistent with Appendix G of the CEQA Guidelines, the proposed project will have a significant impact on the environment associated with Utilities if it would:

- Require or result in the relocation or construction of new or expanded wastewater facilities, the construction or relocation of which could cause significant environmental effects; and/or
- Result in a determination by the wastewater treatment provider which serves or may serve the Project that it has adequate capacity to serve the projects projected demand in addition to the providers existing commitments.

IMPACTS AND MITIGATION MEASURES

Impact 3.15-3: General Plan implementation has the potential to result in a determination by the wastewater treatment provider which serves or may serve the Project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments (Less than Significant)

As described previously, all wastewater collected by community systems is treated at the one several water treatment facilities including the communities of Orland, Willows, Hamilton City, Northeast Willows are served by community systems for wastewater disposal and treatment. Additionally, Parkway Estates development has its own onsite systems for wastewater disposal.

Willows WWTP. Currently, all wastewater collected in the northeast Willow unincorporated areas is treated by the Willows WWTP. As Willows and the northeast Willows community continues to develop in the future, there will be an increased need for wastewater services. The City of Willows completed a major upgrade to the wastewater treatment plant (WWTP) by increasing the treatment capability from secondary to tertiary quality effluent with a rated capacity of 1.2 mgd (million gallons per day). The treatment system includes influent screening, extended aeration (biolac system), activated sludge with two secondary clarifiers, nine continuous backwash sand filters, disinfection with sodium hypochlorite, dechlorination using sodium bisulfite injection, equalization and emergency storage ponds, and sludge storage lagoons. The WWTP currently has a daily dry weather average flow of approximately 0.650 million gallons per day (650,000 gallons per day) from all customers in Willows WWTP service area.

Orland WWTP. According to the Orland General Plan Draft Environmental Impact Report population projections for Orland predict that by 2027 (the life of the revised General Plan), the population will be between 8,974 and 10,495. The wastewater treatment plant can support a population of approximately 12,000.

Existing flows into the treatment plant and system capacities are as follow:

- Average Flow = 0.65 MGD (Million Gallons per Day)
- Peak Flow = 1.12 MGD
- Capacity of the Collection System = 3.4 MGD (based on peak flow)
- Capacity of the Wastewater Treatment Plant = 2.1 MGD (based on average flow)
- Based on these numbers the system is currently operating at about 31-percent of its capacity

Results from the Sewer Master Plans Capacity Analysis show the current sewer lines have enough capacity for the next twenty years and the wastewater ponds are at approximately 34% of their designed capacity. At this time the Master Plan does not make any recommendations for increasing the capacity of the sewer lines or treatment ponds. The wastewater treatment plant is currently

3.15 UTILITIES AND SERVICE SYSTEMS

operating at approximately 31% of its total capacity and is expected to have sufficient capacity for the next 45 to 50 years. Thus the WWTP is expected to have adequate capacity to serve the levels of development anticipated in the unincorporated areas surrounding the city.

Hamilton City WWTP. The Hamilton City Community Services District (CSD) provides treatment for the Hamilton City service area. The facility has a 0.5 MGD capacity with an influent rate of 0.222 to 0.230 MGD.

According to the CSD the WWTP has the capacity to serve an additional 700-800 dwelling units³. As such, this facility has the capacity to serve the additional housing sites identified for this service area in this element.

Conclusion:

While full buildout of the development contemplated in the proposed General Plan would increase the existing treatment demand at the districts' treatment plants, the proposed General Plan includes a range of policies designed to ensure an adequate wastewater treatment capacity for development. Specifically, General Plan Action CSF-2d requires new development to provide for and fund a fair share of the costs for adequate sewer distribution, including line extensions, easements, and plant expansions. Additionally Policy CSF 2-8 requires projects that will rely upon on-site wastewater systems, applicants shall provide detailed plans demonstrating that the system will be adequate to serve the project and will meet or exceed all applicable water quality standards.

Periodic review and update of Sewer Master Plans will be required and as growth continues to occur within the Planning Area. It may be necessary to identify future necessary system upgrades and capacity enhancements to meet infrastructure needs, prior to the approval of new development. Additions and expansions to the WWT would be accommodated on site. Future capacity improvements to infrastructure may be required over time, however, given that projected wastewater generation volumes associated with General Plan buildout are not expected to exceed the projected wastewater treatment volumes, this impact would be less than significant.

While development allowed under the proposed General Plan would increase the existing treatment demand, the proposed General Plan includes a range of policies designed to ensure an adequate wastewater treatment capacity for development. As described above, the districts and sewer providers must also periodically review and update their Master Plans, and as growth continues to occur within the Planning Area, the districts, in coordination with the relevant Cities and County, will identify necessary system upgrades and capacity enhancements to meet growth, prior to the approval of new development

Given that projected wastewater generation volumes associated with General Plan buildout would not be anticipated to exceed the projected wastewater generation volumes, this impact would be **less than significant**. The policies and actions listed below would further assist in ensuring that

³ Hamilton City Community Services District Hamilton City, correspondences 4/22

adequate wastewater treatment and conveyance infrastructure is available to serve new growth projected under the proposed General Plan.

GENERAL PLAN MINIMIZATION MEASURES

COMMUNITY SERVICES AND FACILITIES ELEMENT POLICIES

CSF 2-1 Ensure safe and reliable sewer and wastewater collection and treatment infrastructure to serve the existing and future development.

CSF 2-2 Continue to coordinate with wastewater service providers when reviewing new development applications in order to ensure that new growth does not exceed available sewage treatment capacity or conveyance infrastructure capacity.

CSF 2-3 Ensure that all new developments provide for and fund their fair share of the costs for adequate sewer collection and treatment, including line extensions, easements, and dedications.

CSF 2-4 Encourage water conserving designs and equipment, water-conserving devices, and designing wastewater systems to minimize inflow and reduce wastewater flows.

CSF 2-5 Coordinate with wastewater service providers, and end users to explore the feasibility and potential future use of recycled water as new technology, funding, and infrastructure is available.

CSF 2-6 Support efforts by municipal wastewater service providers to provide the necessary funding for system improvements, upgrades and maintenance.

CSF 2-7 Prior to the approval of new development that would result in increased demand for wastewater conveyance and treatment, projects must demonstrate that existing services are adequate to accommodate the increased demand, or improvements to the capacity of the system to meet increased demand will be made prior to project implementation.

CSF 2-8 For projects that will rely upon on-site wastewater systems, applicants shall provide detailed plans demonstrating that the system will be adequate to serve the project and will meet or exceed all applicable water quality standards.

CSF 2-9 Ensure new septic systems are designed and located to protect water resources and agricultural lands.

CSF 2-10 Consider septic system and septage disposal limitations when determining areas suitable for new development not served by sewer.

CSF 2-11 Require new development within urban limit lines to connect to sewer and water services when available, and discourage installation of septic tanks in all urban areas. When sewer and water services are not immediately available, commitments to serve in the future shall be obtained from service providers prior to development approval.

3.15 UTILITIES AND SERVICE SYSTEMS

COMMUNITY SERVICES AND FACILITIES ELEMENT ACTIONS

Action CSF-2a Continue to utilize and enforce the Glenn County Administrative Code for sewage disposal and on-site septic system requirements, including requirements for septic application, site evaluation, soil conditions, percolation testing, verification and monitoring and other site requirements and conditions.

Action CSF-2b Amend the County Administrative Code (Title 15 Chapter 15.660) to include septic and leach field setbacks from natural waterways. This setback should be a minimum 100 feet from perennial and intermittent streams, seasonal water bodies and natural bodies of standing water. Exceptions may be made if the project involves the repair of an existing system or the system is properly engineered and approved by the Department of Environmental Health.

Action CSF-2c Monitor ongoing changes and updates to State regulations for septic systems developed by the State Regional Water Quality Control Board, as required by AB 885, and periodically update the County Code to reflect applicable changes in regulations.

Action CSF-2d Require new development to provide for and fund a fair share of the costs for adequate sewer distribution, including line extensions, easements, and plant expansions.

Action CSF-2e Explore the viability of future uses of recycled water, including irrigation, dust control, soil compaction, recharge ponds, and fire protection.

Impact 3.15-4: General Plan implementation may require or result in the relocation or construction of new or expanded wastewater facilities, the construction or relocation of which could cause significant environmental effects (Less than Significant)

Development allowed under the proposed General Plan would result in increased demand for water supplies, including water conveyance and treatment infrastructure in community areas served by communitywide systems. The proposed General Plan includes policies to ensure that water supplies and treatment are provided at acceptable levels and to ensure that development and growth does not outpace the provision of available infrastructure.

No development is proposed or will be approved as part of the General Plan Update. Additionally no infrastructure improvements or facilities expansions have been identified as part of the proposed Project. As future development and infrastructure projects are considered by the County, each project will be evaluated for conformance with the General Plan, County Code, and other applicable regulations. Subsequent development and infrastructure projects would also be analyzed for potential environmental impacts, consistent with the requirements of CEQA. As such, this impact would be **less than significant**, and no additional mitigation is required.

The proposed General Plan includes policies designed to ensure adequate wastewater treatment capacity is available to serve development and to minimize the potential adverse effects of wastewater treatment.

GENERAL PLAN ACTIONS THAT MINIMIZE POTENTIAL IMPACTS

See policies listed in Impact 3.15-3.

3.15.3 STORMWATER DRAINAGE

The information in this section focuses on the potential for the General Plan to result in the demand for new or expanded stormwater drainage facilities. Section 3.9 (Hydrology) includes an expanded analysis of water quality, flooding, and other stormwater related issues.

STORMWATER AND FLOOD CONTROL FACILITIES

The Glenn County Public Works Agency manages several special drainage districts. These special districts are for flood control, stream cleaning, and include storm drain maintenance and construction.

Storm Drainage System

Storm drainage services are provided by storm drain maintenance districts and a County Service Area that has been formed in Glenn County to dispose of storm waters. These entities are described below.

The special districts are designed to provide for the control of the flood and storm water flows within the designated areas of the special districts as well as countywide to protect the land, properties, facilities, and people within the county from damage caused by storm and flood waters. By maintaining a healthy drainage system, the County is able to preserve such waters for beneficial uses such as water supply, groundwater percolation, recreation and the environment.

STORM DRAIN MAINTENANCE DISTRICT #1

Storm Drain Maintenance District #1 has an independent Board of Directors and staff, and provides service to an area southeast of Orland. The District maintains a natural drain (which runs southeast through the District) as needed.

NORTH WILLOWS COUNTY SERVICE AREA (FORMERLY STORM DRAIN MAINTENANCE DISTRICT #2)

North Willows County Service Area provides service to an area northeast of Willows. This CSA, which is administered by the County Public Works Department, maintains natural drains and a pipeline system with a pump. The CSA has three long-range plans under consideration:

- Diversion of some drainage west of I-5.
- Development of standby power for the pumps.

STORM DRAIN MAINTENANCE DISTRICT #3

Storm Drain Maintenance District #3 is governed by the Board of Supervisors and provides service to an area located between the Kanawha Water District and the Willows Airport. The District is administered by the County Public Works Department, which maintains a natural drain that

traverses the area. The water then drains east across the south end of the Willows Airport. The Kanawha Water District cooperates with the District to maintain the drain.

Willows Public Works Division

The City of Willows Public Works Division is responsible for operating, maintaining, and improving the City's drainage and stormwater infrastructure, and facilities. Key areas of responsibility include the maintaining and improvements to streets, sewer, and storm drains. The City currently does not have an adopted storm drain master plan.

Colusa Basin Drainage District

The CA State Legislature formed the Colusa Basin Drainage District in 1987 to address flooding and winter drainage, irrigation drainage and subsidence problems in the Colusa Basin Watershed. In September 2000, Congress enacted the "Colusa Basin Watershed Integrated Resources Management Act" (PL 106-566, Title VI) authorizing federal participation in development of a flood control and environmental restoration program for the watershed. The District's Service Area includes 1,036,000 acres (22,160 federal/1,013,842 non-federal) of lands within the counties of Glenn (District #1), Colusa (District #2), and Yolo (District #3) with each jurisdiction having District representation.

Area-Specific Drainage Master Plans

City of Orland Storm Drain Master Plan (2009). The City of Orland maintains five storm drain detention basins within the city limits. The primary storm drainage system collects and transmits storm water from residential and commercial properties within the city limits to the Lely Aquatic Park basin. The other four detention basins provide storage for individual developments. The City adopted a Storm Water Master Plan in 2009 to provide planning for current and future development within the Planning Area of the City of Orland.

Regional Flood Control

Central Valley Flood Protection Plan (2012/2017 Update). The Central Valley Flood Protection Plan (CVFPP) was adopted by the Central Valley Flood Protection Board in 2012 and updated in 2017. The CVFPP is a guide to managing flood risk in the Central Valley and it will be updated every five years. The goal of the CVFPP is to improve flood risk management with the following supporting goals:

- Improve operations and maintenance
- Promote ecosystem functions
- Improve institutional support
- Promote multi-benefit projects

Flood infrastructure is to be planned and managed centrally, but O&M, flood response, and infrastructure implementation can be implemented either regionally or locally. The CVFPP promotes regional governance via local consolidation and collaboration among partnering agencies.

Reclamation Districts. Reclamation districts are governed by a board of trustees that are appointed by the County Board of Supervisors or are elected directly from the populations they serve (§50650). The board of trustees can consist of three, five or seven members and have the power to do all things necessary or convenient for accomplishing the purposes for which the reclamation district was formed (50900). The owners of the majority of acreage in the district may vote to adopt governing bylaws (§50370). A district may, by resolution of the board, provide a procedure for the collection charges and fees, by way of the tax bills of the county or counties in which such district is located (§50904).

There are four reclamation districts in Glenn County, which are:

- Reclamation District No. 2047
- Reclamation District No. 2106
- Reclamation District No. 2140
- Reclamation District No. 1004

Reclamation District No. 2106 is a multicounty district, extending into Butte County. The District is approximately 49,549 acres in size, with approximately 35,507 acres located in Glenn County and approximately 14,402 acres located in Butte County. The District consists of approximately 439 parcels, 408 of which are found in Glenn County and 31 of which are located in Butte County. The Glenn Local Agency Formation Commission is the principal county LAFCo for Reclamation District No. 2106 as the majority of the parcels, along with the majority of the land value, lies within Glenn County.

Reclamation Districts 1004 and 2047 are also multicounty districts. Only a small portion of Reclamation District No. 1004, consisting of six parcels, totaling approximately 468 acres in area, is located within Glenn County. The remaining portion of Reclamation District No. 1004 is within Colusa County. As the majority of the assessed land value of Reclamation District No. 1004 is within Colusa County, the Colusa Local Agency Formation Commission is the principal county LAFCo for this District. As the principal county LAFCo, Colusa LAFCo is the agency that would act on annexations, detachments, SOI modifications and SOI Plans, and municipal services reviews for Reclamation District No. 1004. Likewise, a large portion of Reclamation District No. 2047, consisting of approximately 1,569 parcels totaling approximately 95,605 acres in size, is located within Glenn County. Even though a large portion of Reclamation District No. 2047 is within Glenn County, Colusa LAFCo is the principal county LAFCo for this district.

Levee Districts. Levee districts are governed by a three-member board of directors that are appointed by the County Board of Supervisors or are elected directly from the populations they serve. Levee districts may acquire by purchase, condemnation, gift or other action, drains, canals, sluices, bulkheads, watergates, levees, embankments, pumping plants and pipelines and to purchase, construct or otherwise acquire, maintain and keep in repair all things reasonable or convenient for the protection of the lands of the district from overflow and for the purpose of conserving or adding water to the sloughs and drains in the district. The district may co-operate and

3.15 UTILITIES AND SERVICE SYSTEMS

contract with the United States, the State of California, or any department or agency of either, in order to accomplish any of the purposes of the district.

There are three levee districts in Glenn County, which are:

- Levee District No. 1
- Levee District No. 2
- Levee District No. 3

Levee District No. 1 is located north and south of the unincorporated community of Glenn along the west side of the Sacramento River. The District consists of approximately 207 parcels and totals approximately 9,630 acres in size. The predominant land use within the District boundaries is agricultural, along with some agricultural processing facilities and scattered residential uses. The majority of the district is zoned for agricultural uses. The District has an estimated population of 300. The District is responsible for maintenance of the levee located on the west side of the Sacramento River, from the north border of Levee District No. 2 northwards for approximately 12 miles.

Levee District No. 2 is located in the Four Corners area of southeast Glenn County, along the west side of the Sacramento River. The District consists of approximately 130 parcels and totals approximately 5,620 acres in size. The predominant land use within the District boundaries is agricultural, along with some agricultural processing facilities and scattered residential uses. The majority of the district is zoned for agricultural uses. The District has an estimated population of 115. The District is responsible for maintenance of the levee located on the west side of the Sacramento River, from the Colusa County border northwards for approximately 4.9 miles.

Levee District No. 3 is located in the southeast Glenn County area, east of the Sacramento River, and includes the unincorporated community of Butte City. The District consists of approximately 247 parcels and totals approximately 12,820 acres in size. The predominant land use within the District boundaries is agricultural, along with some agricultural processing facilities. The unincorporated community of Butte City, which is developed with approximately 40 dwellings, is located within the District. The majority of the district is zoned for agricultural uses, although the Butte City area is zoned for single-family residential uses. The District has an estimated population of 115. The District is responsible for maintenance of the levee located on the east side of the Sacramento River, from the Colusa County border northwards for a distance of approximately 12 miles.

REGULATORY SETTING - STORMWATER DRAINAGE

FEDERAL

Clean Water Act (CWA)

The CWA, initially passed in 1972, regulates the discharge of pollutants into watersheds throughout the nation. Section 402(p) of the act establishes a framework for regulating municipal and industrial stormwater discharges under the National Pollutant Discharge Elimination System (NPDES) Program. Section 402(p) requires that stormwater associated with industrial activity that discharges either directly to surface waters or indirectly through municipal separate storm sewers must be regulated by an NPDES permit.

The State Water Resources Control Board (SWRCB) is responsible for implementing the Clean Water Act and does so through issuing NPDES permits to cities and counties through regional water quality control boards. Federal regulations allow two permitting options for storm water discharges (individual permits and general permits). The SWRCB elected to adopt a statewide general permit (Water Quality Order No. 2003-0005-DWQ) for small Municipal Separate Storm Sewer Systems (MS4s) covered under the CWA to efficiently regulate numerous storm water discharges under a single permit. Permittees must meet the requirements in Provision D of the General Permit, which require the development and implementation of a Storm Water Management Plan (SWMP) with the goal of reducing the discharge of pollutants to the maximum extent practicable. The SWMP must include the following six minimum control measures:

- 1) Public Education and Outreach on Storm Water Impacts
- 2) Public Involvement/Participation
- 3) Illicit Discharge Detection and Elimination
- 4) Construction Site Storm Water Runoff Control
- 5) Post-Construction Storm Water Management in New Development
- 6) Redevelopment and Pollution Prevention/Good Housekeeping for Municipal Operations

National Pollutant Discharge Elimination System (NPDES)

National Pollutant Discharge Elimination System (NPDES) permits are required for discharges to navigable waters of the United States, which includes any discharge to surface waters, including lakes, rivers, streams, bays, oceans, dry stream beds, wetlands, and storm sewers that are tributary to any surface water body. NPDES permits are issued under the Federal Clean Water Act, Title IV, Permits and Licenses, Section 402 (33 USC 466 et seq.)

The RWQCB issues these permits in lieu of direct issuance by the Environmental Protection Agency, subject to review and approval by the EPA Regional Administrator (EPA Region 9). The terms of these NPDES permits implement pertinent provisions of the Federal Clean Water Act 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 Clean Water Act'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 CWA.

These NPDES permits regulate discharges from publicly owned treatment works, industrial discharges, stormwater runoff, dewatering operations, and groundwater cleanup discharges. NPDES permits are issued for five years or less, and are therefore to be updated regularly. The rapid and dramatic population and urban growth in the Central Valley Region has caused a significant increase in NPDES permit applications for new waste discharges. To expedite the permit issuance process, the RWQCB has adopted several general NPDES permits, each of which regulates numerous discharges of similar types of wastes. The SWRCB has issues general permits for stormwater runoff from construction sites statewide. Stormwater discharges from industrial and construction activities in the Central Valley Region can be covered under these general permits, which are administered jointly by the SWRCB and RWQCB.

STATE

California Water Code

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) (Porter-Cologne Act). The Porter-Cologne Act grants the SWRCB and each of the Regional Water Quality Control Boards (RWQCBs) power to protect water quality, and is the primary vehicle for implementation of California's responsibilities under the Federal Clean Water Act. The Porter-Cologne Act grants the SWRCB and the RWQCBs authority and responsibility to adopt plans and policies, to regulate discharges to surface and groundwater, to regulate waste disposal sites, and to require cleanup of discharges of hazardous materials and other pollutants. The Porter-Cologne Act also establishes reporting requirements for unintended discharges of any hazardous substance, sewage, or oil or petroleum product.

Each RWQCB must formulate and adopt a Water Quality Control Plan (Basin Plan) for its region. The regional plans are to conform to the policies set forth in the Porter-Cologne Act and established by the SWRCB in its State water policy. The Porter-Cologne Act also provides that a RWQCB may include within its regional plan water discharge prohibitions applicable to particular conditions, areas, or types of waste.

Water Quality Control Plan for the Central Valley Region

The Water Quality Control Plan for the Central Valley Region (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 Federal Clean Water Act, 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 the water quality standards.

The RWQCB regulates waste discharges to minimize and control their effects on the quality of the region's ground and surface water. Permits are issued under a number of programs and authorities. The terms and conditions of these discharge permits are enforced through a variety of technical, administrative, and legal means. 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 necessary to allow all the beneficial uses of the water to be met, 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 California Water Code and the Clean Water Act.

Sacramento Valley Integrated Regional Water Management Plan

Northern California water suppliers in partnership with local governments, environmental representatives and state and federal agencies continue to refine an "Integrated Regional Water Management Plan for the Sacramento Valley" (Regional Plan). The Regional Plan is designed to protect Northern California water rights and supplies and it will serve as a roadmap for present and future generations to provide water for farms, cities, birds, fish and recreation.

THRESHOLDS OF SIGNIFICANCE

Consistent with Appendix G of the CEQA Guidelines, the proposed project will have a significant impact on the environment associated with Utilities if it would:

- Require or result in the relocation or construction of new or expanded storm water drainage facilities, the construction or relocation of which could cause significant environmental effects.

IMPACTS AND MITIGATION MEASURES

Impact 3.15-5: General Plan implementation may require or result in the relocation or construction of new or expanded storm water drainage facilities, the construction or relocation of which could cause significant environmental effects (Less than Significant)

Development under the proposed General Plan may result in increased areas of impervious surfaces in portions of the Planning Area, resulting in the need for additional or expanded stormwater drainage, conveyance, and retention infrastructure. The infrastructure and facilities necessary to serve new growth would involve development of some facilities on-site within new development projects, some facilities off-site on appropriately designated land, and may also involve improvements to existing facilities and disturbance of existing rights-of-way. The specific impacts of providing new and expanded drainage facilities cannot be determined at this time, as the General Plan does not propose or approve any specific development project nor does it designate specific sites for new or expanded public facilities.

Stormwater drainage and conveyance facilities would be evaluated at the project-level in association with subsequent development projects. However, the facilities would be primarily provided on sites with land use designations that allow such uses and the environmental impacts of constructing and

3.15 UTILITIES AND SERVICE SYSTEMS

operating the facilities would likely be similar to those associated with new development, redevelopment, and infrastructure projects under the General Plan.

The proposed General Plan includes policies and actions designed to ensure adequate drainage infrastructure is available to serve development, to minimize the potential adverse effects of stormwater conveyance, and to ensure that development does not move forward until adequate drainage capacity exists. Specifically, the proposed General Plan requires all development projects to demonstrate how storm water runoff will be detained or retained on-site and/or conveyed to the nearest drainage facility as part of the development review process. Project applicants are required to mitigate any drainage impacts as necessary and the General Plan requires the County to maintain drainage channels in a naturalized condition to the greatest extent feasible, and as feasible to include pervious surfaces.

As future development and infrastructure projects are considered by the County, each project will be evaluated for conformance with the General Plan, Glenn County Code, and other applicable regulations. Subsequent development and infrastructure projects would also be analyzed for potential environmental impacts, consistent with the requirements of CEQA. As such, this is a **less than significant** impact and no additional mitigation is required.

The policies and actions listed below would further ensure that there is adequate stormwater drainage and flood control infrastructure to serve future development under the General Plan, and would ensure that future drainage and flood control infrastructure projects do not result in adverse environmental impacts.

GENERAL PLAN ACTIONS THAT MINIMIZE POTENTIAL IMPACTS

COMMUNITY SERVICES AND FACILITIES ELEMENT POLICIES

CSF 3-1: Maintain and improve Glenn County's storm drainage facilities.

CSF 3-2: Require all new development projects and other activities that result in land alterations greater than one acre (such as new site grading for ag operations or the installation of orchards) to demonstrate how storm water runoff will be detained or retained on-site and/or conveyed to the nearest drainage facility as part of the development review process..

CSF 3-3: Require the installation of storm drain and other flood protection/prevention improvements as a condition of all new development approvals.

CSF 3-4: Applicable projects shall incorporate Best Management Practices (BMPs) and Low Impact Development measures (LID) to treat stormwater before discharge from the site.

CSF 3-5: Where feasible, developments should avoid excessive grading and disturbance of vegetation and soils, retain native vegetation and trees, and maintain natural drainage patterns to the greatest extent feasible.

CSF 3-6: In areas planned for new residential development, encourage dual-use detention basins for parks, ball fields, and other appropriate uses.

CSF 3-7: Work with agricultural land owners to improve and remedy practices that have resulted in adverse impacts to adjacent properties and infrastructure. Such practices include site drainage and flood control measures and the use of Best Management Practices (BMPs) to reduce drainage impacts.

COMMUNITY SERVICES AND FACILITIES ELEMENT ACTIONS

Action CSF-3a: Continue to review development projects and other activities that result in grading or land alterations to areas greater than one acre to identify potential stormwater and drainage impacts. Projects should analyze their drainage and stormwater conveyance impacts and either demonstrate that the existing infrastructure can accommodate increased stormwater flows, or make the necessary improvements to mitigate potential impacts.

Action CSF-3b: Identify stormwater drainage infrastructure that is in need of repair and address these needs through the Capital Improvement Projects Fund as feasible.

Action CSF-3c: Continue to implement the requirements established by the State Water Resource Control Board's (SWRCB) National Pollutant Discharge Elimination System (NPDES) General Permit requirements including the requirements to prepare a Stormwater Pollution Prevention Plan (SWPPP) during construction activities and grading projects that disturb more than 1 acre of land area.

Action CSF-3d: Work cooperatively with local, State, and Federal agencies to comply with water quality regulations, reduce pollutants in runoff, and protect and enhance water resources throughout Glenn County.

3.15.4 SOLID WASTE

There are four types of solid waste generated in Glenn County: residential waste, commercial waste, industrial waste, and natural resource byproducts. Most of the waste brought to landfills is residential waste. Natural resource byproducts include rice stubble and straw, manures, gas well muds, cannery waste, and waste from prune dehydrators. Rice stubble and straw is usually burned or disked into the land, while manures are often used as fertilizer.

KEY TERMS

Class I landfill: A landfill that accepts for disposal 20 tons or more of municipal solid waste daily (based on an annual average); or one that does not qualify as a Class II or Class III municipal solid waste landfill.

Class II landfill: A landfill that (1) accepts less than 20 tons daily of municipal solid waste (based on an annual average); (2) is located on a site where there is no evidence of groundwater pollution caused or contributed by the landfill; (3) is not connected by road to a Class I municipal solid waste landfill, or, if connected by road, is located more than 50 miles from a Class I municipal solid waste landfill; and (4) serves a community that experiences (for at least three months each year) an interruption in access to surface transportation, preventing access to a Class I landfill, or a community with no practicable waste management alternative.

Class III landfill: A landfill that is not connected by road to a Class I landfill or a landfill that is located at least 50 miles from a Class I landfill. Class III landfills can accept no more than an average of one ton daily of ash from incinerated municipal solid waste or less than five tons daily of municipal solid waste.

Transfer station: A facility for the temporary deposition of some wastes. Transfer stations are often used as places where local waste collection vehicles will deposit their waste cargo prior to loading into larger vehicles. These larger vehicles will transport the waste to the end point of disposal or treatment.

WASTE COLLECTION SERVICES

Residential and commercial garbage pickup is provided by Waste Management of Glenn County. Garbage picked up from areas are taken to the Glenn County Transfer Station. Residential trash is collected every week, while recycle and yard waste are collected every other week on an alternating basis.

WASTE DISPOSAL FACILITIES

Solid waste in Glenn County is collected by franchised haulers, with rates set by the Board of Supervisors for the unincorporated area and by the City Councils in the cities of Willows and Orland, and brought to landfill.

The vast majority of landfill disposal from Glenn County was historically sent to the Glenn County Landfill, owned and operated by the Glenn County Waste & Recycling Department.

Glenn County owned and operated the 195+ acre Glenn County Landfill Site, located on County Road 33, west of Artois. It was a Class III landfill (a facility at which protection is provided to water quality from municipal, industrial and agricultural wastes) with a maximum permitted capacity of 2,400,000 cubic yards. This site received agricultural waste, construction and demolition waste, dead animal, industrial, inert, mixed municipal waste, and tires.

The Glenn County Landfill Site was permitted to accept 1,400 tons of solid waste per week, not to exceed 200 tons per day. The average daily disposal was approximately 64 tons per day. The allotted disposal area was 83 acres, and it was designed to hold 2,400,000 cubic yards of inert or designated wastes. The maximum depth of the landfill is 192 feet below mean sea level and the permitted height is no greater than 342 feet above mean sea level. The landfill was closed in 2020, and is no longer operational.

In 2016, Glenn County approved a new Glenn County Solid Waste Conversion Facility (GCSWCF), also known as a transfer station. The new transfer station became operational in 2020, and is located along Highway 32, approximately three miles west of Hamilton city and five miles east of Orland in an unincorporated area of Glenn County. The 8.5-acre project is bordered by Highway 32 to the north and Stony Creek to the south. The new facility consists of a new solid waste receiving and transfer facility, an anaerobic digester facility, an on-site electrical generation facility, a compressed natural gas production facility, and a fueling station. It serves as a municipal solid waste materials recovery facility, which will handle up to 500 tons per day.

After the waste is collected, the GCSWCF is used to process and ship the material to its final destination. The GCSWCF is owned and operated by Glenn County and also serves most of the county. Recyclables are processed at the GCSWCF and then loaded onto larger trucks and taken to Sacramento Recycling.

The Glenn County Health Department, acting as the Local Enforcement Agency (LEA), is certified by the California Integrated Waste Management Board to enforce state laws and regulations at solid waste facilities within its jurisdiction. The GCSWCF operates under a Solid Waste Facility Permit issued by the Glenn County Health Department. The operation and design of the facility are described in a Report of Disposal Site Information (RDSI).

HAZARDOUS WASTE DISPOSAL

According to the COSWMP, opportunities for resource recovery are limited in Glenn County because most materials must be hauled to locations outside the county. Hazardous waste has been described, quantified and projected in the Glenn County Hazardous Waste Management Plan (CHWMP). There are currently no industries in the county authorized to provide onsite treatment of hazardous wastes, and there are no hazardous waste treatment, storage or disposal facilities located in Glenn County. The two major transportation corridors through the county, Interstate 5 and the railroad, as well as the other State highways, are routes for movement of large quantities of hazardous materials.

In February 2006, it became illegal for residents and small businesses to dispose of universal waste in the trash due to a decision by the Department of Toxic Substance Control and the California

3.15 UTILITIES AND SERVICE SYSTEMS

Integrated Waste Management Control. Universal waste is a type of hazardous waste containing mercury or other heavy metals that can release neurotoxins into the environment if not disposed of properly. Almost any product with a circuit board is considered universal waste. Other universal waste items include batteries, motor oil, mercury thermostats, fluorescent lights, cathode ray tube devices (computer monitors, televisions), and mercury thermometers. These items are banned from landfills and require special handling. The Glenn County Solid Waste & Recycling host free collection and disposal events to safely collect and dispose of these items and other E-waste, tires, and household hazardous waste.

SOLID WASTE GENERATION RATES AND VOLUMES

The California Department of Resources Recycling and Recovery (CalRecycle) tracks and monitors solid waste generation rates on a per capita basis. Per capita solid waste generation rates and total annual solid waste disposal volumes for Glenn County between 2014 and 2018 are shown in Table 3.15-4 below.

TABLE 3.15-4: SOLID WASTE GENERATION RATES

YEAR	WASTE GENERATION RATE (LBS/PERSON/DAY)	POPULATION	TOTAL DISPOSAL TONNAGE (TONS/YEAR)
2014	3.9	28,465	20,236
2015	3.8	28,530	20,038
2016	4.2	28,604	21,758
2017	3.8	28,694	20,046
2018	4.4	28,762	23,232

SOURCE: CAL RECYCLE. ACCESSED JUNE 2019.

As shown in the Table 3.15-4 above, the per capita waste generation rate fluctuated between 3.8 and 4.4 lbs/person/day over the 5-year (2014-2018) period, while the total annual disposal tonnage in Glenn County increased by 2,996 tons over the 2014 to 2018 time span. With the passage of SB 1016, per capita disposal rate is used to determine the diversion progress of a county and not the jurisdictional diversion rates. Therefore, a population increase resulting in the generation of more overall county waste does not affect the jurisdiction's ability to meet its waste goals. The County's waste disposal rate targets are shown in Table 3.15-5.

Table 3.15-5: Glenn County Waste Disposal Rate Targets (Pounds/Day)

YEAR	POPULATION		EMPLOYMENT	
	TARGET	ANNUAL	TARGET	ANNUAL
2014	4.8	3.9	19.4	13.1
2015	4.8	3.8	19.4	12.6
2016	4.8	4.2	19.4	13.4
2017	4.8	3.8	19.4	12.3

SOURCE: CAL RECYCLE. ACCESSED JUNE 2019.

The County's target rate on the above table represents a 50% diversion rate. In accordance with AB 939, which required counties and municipalities to aggressively pursue MSW source reduction and

recycling, the County continues to meet and exceed all AB 939 goals. The various solid waste management actions adopted by the County include, but are not limited to, recycling and yard waste programs for residents and businesses, public education and public outreach awareness events, and school recycling and composting.

REGULATORY SETTING – SOLID WASTE

FEDERAL

Resource Conservation and Recovery Act

The Resource Conservation and Recovery Act (RCRA) was enacted in 1976 to address the huge volumes of municipal and industrial solid waste generated nationwide. After several amendments, the current Act governs the management of solid and hazardous waste and underground storage tanks (USTs). RCRA was an amendment to the Solid Waste Disposal Act of 1965. RCRA has been amended several times, most significantly by the Hazardous and Solid Waste Amendments (HSWA) of 1984. RCRA is a combination of the first solid waste statutes and all subsequent amendments. RCRA authorizes the Environmental Protection Agency (EPA) to regulate waste management activities. RCRA authorizes states to develop and enforce their own waste management programs, in lieu of the Federal program, if a state's waste management program is substantially equivalent to, consistent with, and no less stringent than the Federal program.

STATE

California Integrated Waste Management Act (AB 939 and SB 1322)

The California Integrated Waste Management Act of 1989 (AB 939 and SB 1322) requires every city and county in the state to prepare a Source Reduction and Recycling Element to its Solid Waste Management Plan that identifies how each jurisdiction will meet the mandatory state waste diversion goals of 25% by 1995 and 50% by 2000. The purpose of AB 939 and SB 1322 is to “reduce, recycle, and re-use solid waste generated in the state to the maximum extent feasible.” The term “integrated waste management” refers to the use of a variety of waste management practices to safely and effectively handle the municipal solid waste stream with the least adverse impact on human health and the environment. The Act has established a waste management hierarchy, as follows: Source Reduction; Recycling; Composting; Transformation; and Disposal.

California Integrated Waste Management Board Model Ordinance

Subsequent to the Integrated Waste Management Act, additional legislation was passed to assist local jurisdictions in accomplishing the goals of AB 939. The California Solid Waste Re-use and Recycling Access Act of 1991 (§42900-42911 of the Public Resources Code) directs the California Integrated Waste Management Board (CIWMB) to draft a “model ordinance” relating to adequate areas for collecting and loading recyclable materials in development projects. The model ordinance requires that any new development project, for which an application is submitted on or after September 1, 1994, include “adequate, accessible, and convenient areas for collecting and loading recyclable materials.” For subdivisions of single family detached homes, recycling areas are required to serve only the needs of the homes within that subdivision.

AB 341 (75 Percent Solid Waste Diversion)

AB 341 requires CalRecycle to issue a report to the Legislature that includes strategies and recommendations that would enable the state to divert 75 percent of the solid waste generated in the state from disposal by January 1, 2020, requires businesses that meet specified thresholds in the bill to arrange for recycling services by January 1, 2012, and also streamlines various regulatory processes.

SB 1374 (Construction And Demolition Waste Materials Diversion)

Senate Bill 1374 (SB 1374), Construction and Demolition Waste Materials Diversion Requirements, requires that jurisdictions summarize their progress realized in diverting construction and demolition waste from the waste stream in their annual AB 939 reports. SB 1374 required the CIWMB to adopt a model construction and demolition ordinance for voluntary implementation by local jurisdictions.

AB 2176 (Montanez, Chapter 879, Statutes of 2004)

This law requires the largest venue facilities and events (as defined) in each city and county to plan and implement solid waste diversion programs, and annually report the progress of those upon the request of their local government. In turn, local jurisdictions must report to the CIWMB waste diversion information for the top 10 percent of venues and events by waste generation.

A large event is defined as:

1. Serves an average of more than 2,000 individuals per day of operation (both people attending the event and those working at it—including volunteers—are included in this number); and
2. Charges an admission price or is run by a local agency.

The bill specifically includes public, nonprofit, or privately-owned parks, parking lots, golf courses, street systems, or other open space when being used for an event, including, but not limited to, a sporting event or a flea market in addition to events that meet both of the above.

A large venue is defined as:

- A permanent facility that annually seats or serves an average of more than 2,000 individuals within the grounds of the facility per day of operation (both people attending the event and those working at it—including volunteers too—are included in this number).

Venues include, but are not limited to airports, amphitheaters, amusement parks, aquariums, arenas, conference or civic centers, fairgrounds, museums, halls, horse tracks, performing arts centers, racetracks, stadiums, theaters, zoos, and other public attraction facilities.

California Integrated Waste Management Board Model Ordinance

Subsequent to the Integrated Waste Management Act, additional legislation was passed to assist local jurisdictions in accomplishing the goals of AB 939. The California Solid Waste Re-use and

Recycling Access Act of 1991 (§42900-42911 of the Public Resources Code) directs the California Integrated Waste Management Board (CIWMB) to draft a “model ordinance” relating to adequate areas for collecting and loading recyclable materials in development projects. The model ordinance requires that any new development project, for which an application is submitted on or after September 1, 1994, include “adequate, accessible, and convenient areas for collecting and loading recyclable materials.” For subdivisions of single family detached homes, recycling areas are required to serve only the needs of the homes within that subdivision.

California Green Building Standards Code (CALGreen)

CALGreen requires the diversion of at least 50 percent of the construction waste generated during most new construction projects (CALGreen Sections 4.408 and 5.408) and some additions and alterations to nonresidential building projects.

LOCAL

Glenn County Code, Chapter 7.080

Chapter 7.080 of the County Code regulates the management of garbage, recyclables, and other wastes. Chapter 7.080 sets forth solid waste collection, disposal, and diversion requirements for residential, commercial, industrial, and other uses.

THRESHOLDS OF SIGNIFICANCE

Consistent with Appendix G of the CEQA Guidelines, the proposed project will have a significant impact on the environment associated with Utilities if it would:

- Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals; and/or
- Comply with federal, state, and local management and reduction statutes and regulations related to solid waste.

IMPACTS AND MITIGATION MEASURES

Impact 3.15-6: General Plan implementation would comply with federal, state, and local management and reduction statutes and regulations related to solid waste, and would not generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals (Less than Significant)

Future development of projects as contemplated under the proposed General Plan may increase the population within the Planning Area at buildout to approximately 17,089 persons. As described above, the Glenn County disposed of 23,232 tons of solid waste in 2018 achieving a disposal rate of 4.4 PPD per resident. Assuming these disposal rates remain constant throughout the life of the

3.15 UTILITIES AND SERVICE SYSTEMS

General Plan, the new growth under General Plan buildout would result in an increase of approximately 75,191.6 pounds per day of solid waste, which equals 87.6 tons per day or 31,972.5 tons of solid waste per year.

The County's projected increase in solid waste generation associated with future buildout of the proposed General Plan is well within the permitted capacity of the new Glenn County Solid Waste Conversion Facility. Therefore, this is a **less than significant** impact and no additional mitigation is required.

Future projects within the Planning Area would be required to comply with applicable state and local requirements including those pertaining to solid waste, construction waste diversion, and recycling. While there is adequate permitted landfill capacity to accommodate future growth, the proposed General Plan includes actions to further reduce the project's impact on solid waste services, as identified below. The General Plan would not exceed the permitted capacity of the landfill serving the county, and the General Plan complies with regulations related to solid waste.

GENERAL PLAN ACTIONS THAT MINIMIZE POTENTIAL IMPACTS

COMMUNITY SERVICES AND FACILITIES ELEMENT POLICIES

CSF 4-1: Achieve maximum waste diversion through the expansion and/or development of cost-effective recycling and source reduction programs tailored for both rural and urbanized jurisdictions in the county.

CSF 4-3: Support an effective public information program aimed at achieving maximum participation, diversion of materials, and preservation of county landfill space.

CSF 4-5: Encourage and support commercial recycling and re-use activities and opportunities throughout the county.

CSF 4-6: Support programs aimed at processing waste produced by the construction, agricultural and farming sectors. These programs may include but are not limited to opportunities for compost and mulching, and waste-to-energy technologies that utilize solid waste for bio-mass or bio-fuels for energy production.

CSF 4-8: Collaborate with waste/recycling haulers to expand collection and recycling services.

CONVERSATION AND OPEN SPACE POLICIES

COS 5-1: Provide adequate waste disposal, recycling, and reuse services for present and future residents and businesses, including programs that improve public access to solid waste collection and recycling facilities.

COS 5-2: Continue to participate in source reduction and recycling efforts, including operation of the County's transfer station, to reduce the amount of solid waste sent to landfills and extend the life of landfills.

COS 5-3: Comply with Assembly Bill 939 source reduction and recycling requirements of 50 percent diversion of solid waste from landfills and strive to partner, plan for, and document compliance with Assembly Bill 341 source reduction, recycling, and composting requirements of 75 percent by 2020 and annually thereafter.

COS 5-4: Support the County's role in the source reduction and recycling components of waste management through recycling programs at County facilities to reduce the quantity of waste.

COS 5-6: Educate the public on ways to divert household waste from the landfill, including education programs on reducing, reusing, and recycling material.

COMMUNITY SERVICES AND FACILITIES ACTIONS

Action CSF-4a: Implement and enforce the provisions of the County's Source Reduction and Recycling Program and update the program as necessary to meet or exceed the State waste diversion requirements.

Action CSF-4b: Distribute public education materials regarding the proper handling and disposal of household hazardous waste, opportunities for recycling and composting, and resources for solid waste disposal available to County residents and businesses.

Action CSF-4c: Coordinate with the Glenn County Health Department to pursue available grants from agencies such as CalRecycle to fund cleanup efforts.

Action CSF-4d: As part of the development review for projects that would generate significant volumes of solid waste within the county, require that these projects demonstrate adequate capacity for the haul and disposal of solid waste to serve the additional demand prior to project approval.

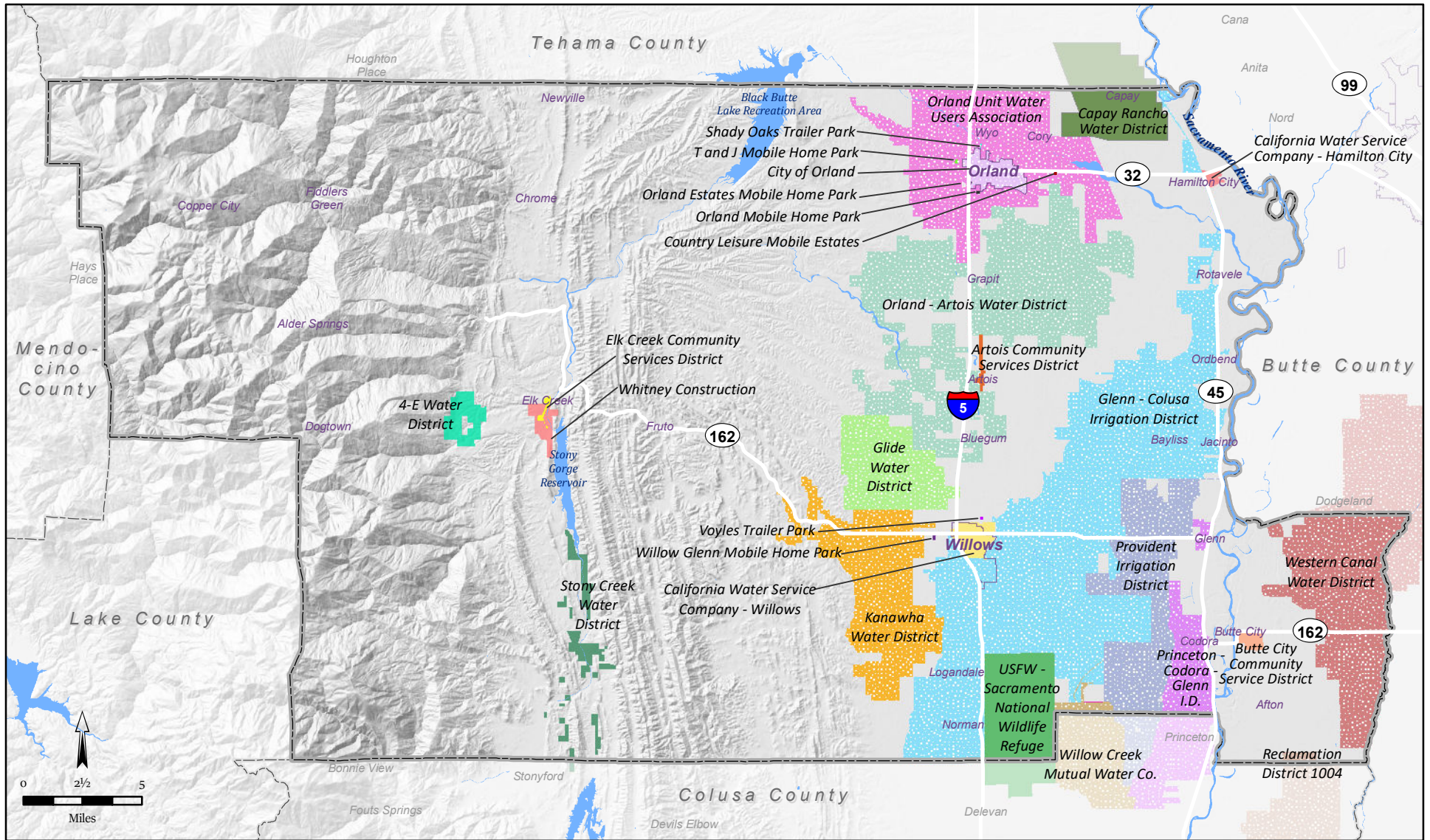
CONVERSATION AND OPEN SPACE ACTIONS

Action COS-5a: Continue existing, and develop new, diversion strategies (including source reduction, recycling, and composting and yard waste programs) to reduce solid waste disposal volume to meet the State-mandated level.

Action COS-5d: Continue to implement, and update as necessary, the County Code to regulate issues related to solid waste, including but not limited to Title 7 Health & Safety Chapter 80 Garbage & Refuse Disposal.

Action COS-5f: Continue to provide a Solid Waste & Recycling page (or similar page) on the County website that provides links to resources and provides information regarding local and regional recycling programs, opportunities for reuse of materials, composting strategies, organics recycling, and opportunities for the disposal of hazardous waste.

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Sources: DWR 103 Water Districts, Groundwater & Regional Planning Office, South Central Regional Office, 8/3/2018. Map date: September 18, 2019.

Legend

- | | | | |
|---|---------------------------------------|---------------------------------|--|
| Surface Water Provider | Country Leisure Mobile Estates | Orland Unit Water Users Assoc | USFWS - Sacramento Nat'l Wildlife Refuge |
| 4-E Water District | Elk Creek Community Services District | Princeton - Codora - Glenn I.D. | Voyles Trailer Park |
| Artois Community Services District | Glenn - Colusa I.D. | Provident I.D. | Western Canal Water District |
| Butte City Community Service District | Glide Water District | Provident I.D. - Willow Creek | Whitney Construction |
| California Water Service Co - Hamilton City | Kanawha Water District | Reclamation District No 1004 | Willow Creek Mutual Water District |
| California Water Service Co - Willows | Orland - Artois Water District | Shady Oaks Trailer Park | Willow Glenn Mobile Home Park |
| Capay Rancho Water District | Orland Estates Mobile Home Park | Stony Creek Water District | |
| City of Orland | Orland Mobile Home Park | T and J Mobile Home Park | |

COUNTY OF GLENN, CALIFORNIA
FIGURE 3.15-1.
WATER DISTRICTS WITHIN
GLENN COUNTY

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This section provides a background discussion of the hazards associated with wildfires in Glenn County. The discussion of fire suppression resources is located within Chapter 3.13, Public Services and Recreation, of this report.

No comments were received during the NOP comment period regarding this environmental topic.

3.16.1 ENVIRONMENTAL SETTING

FIRE HAZARD SEVERITY ZONES

The state has charged CalFire with the identification of Fire Hazard Severity Zones (FHSZ) within State Responsibility Areas. In addition, CalFire must recommend Very High Fire Hazard Severity Zones (VHFHSZ) identified within any Local Responsibility Areas. The FHSZ maps are used by the State Fire Marshall as a basis for the adoption of applicable building code standards.

Local Responsibility Areas

The majority of the developed portions of the Planning Area (east and west of the Interstate 5 corridor) is located within a Local Responsibility Area (LRA). CalFire has determined that Glenn County has no Very High Fire Hazard Severity Zones (VHFHSZ) within Local Responsibility Areas. Figure 3.8-1 shows Fire Hazard Severity Zones for Local, State, and Federal Responsibility Areas.

State Responsibility Areas

State Responsibility Areas (SRAs) within the Planning Area generally bisect the county from north to south beginning roughly 5 miles west of Interstate 5 moving west through the foothill region. FHSZ within the SRAs range from “Moderate” to “Very High”. Figure 3.8-1 shows Fire Hazard Severity Zones for State Responsibility Areas.

Federal Responsibility Areas

As shown on Figure 3.8-1 there are several areas designated as Federal Responsibility Areas (FRA) within the Planning Area. The majority of FRA’s are located on the western side of the foothill region and include the Dogtown, Alder Springs, Fiddlers Green, and Copper City areas.

IDENTIFYING FIRE HAZARDS

Fuel Rank

Fuel rank is a ranking system developed by CalFire that incorporates four wildfire factors: fuel model, slope, ladder index, and crown index.

The U.S. Forest Service has developed a series of fuel models, which categorize fuels based on burn characteristics. These fuel models help predict fire behavior. In addition to fuel characteristics, slope is an important contributor to fire hazard levels. A surface ranking system has been developed by CalFire, which incorporates the applicable fuel models and slope data. The model categorizes slope into six ranges: 0-10%, 11-25%, 26-40%, 41-55%, 56-75% and >75%. The combined fuel model and

slope data are organized into three categories, referred to as surface rank. Thus, surface rank is a reflection of the quantity and burn characteristics of the fuels and the topography in a given area.

The ladder index reflects the distance from the ground to the lowest leafy vegetation for tree and plant species. The crown index reflects the quantity of leafy vegetation present within individual specimens of a given species.

The surface rank, ladder index, and crown index for a given area are combined in order to establish a fuel rank of medium, high, or very high. Fuel rank is used by CalFire to identify areas in the California Fire Plan where large, catastrophic fires are most likely.

Glenn County contains areas with “moderate” “High” “Very High” and “non-wildland fuel” ranks. Generally, the more developed areas within the county near the I-5 corridor are considered non-wildland with the fuel rank increasing in the western foothill areas of the county. The areas warranting “moderate” to “Very High” fuel ranks possess combustible material in sufficient quantities combined with topographic characteristics that pose a wildfire risk.

Fire Threat

The fuel rank data are used by CalFire to delineate fire threat based on a system of ordinal ranking. Thus, the Fire Threat model creates discrete regions, which reflect fire probability and predicted fire behavior. The four classes of fire threat range from moderate to extreme.

3.16.2 REGULATORY SETTING

FEDERAL

FY 2001 Appropriations Act

Title IV of the Appropriations Act required the identification of “Urban Wildland Interface Communities in the Vicinity of Federal Lands that are at High Risk from Wildfire” by the U.S. Departments of the Interior and Agriculture.

Disaster Mitigation Act (2000)

Section 104 of the Disaster Mitigation Act of 2000 (Public Law 106-390) enacted Section 322, Mitigation Planning of the Robert T. Stafford Disaster Relief and Emergency Assistance Act, which created incentives for state and local entities to coordinate hazard mitigation planning and implementation efforts, and is an important source of funding for fuels mitigation efforts through hazard mitigation grants.

National Fire Plan (NFP) 2000

The summer of 2000 marked a historic milestone in wildland fire records for the United States. Dry conditions (across the western United States), led to destructive wildfire events on an estimated 7.2 million acres, nearly double the 10-year average. Costs in damages including fire suppression activities were approximately 2.1 billion dollars. Congressional direction called for substantial new appropriations for wildland fire management. This resulted in action plans, interagency strategies,

and the Western Governor's Association's "A Collaborative Approach for Reducing Wildland Fire Risks to Communities and the Environment - A 10-Year Comprehensive Strategy - Implementation Plan", which collectively became known as the National Fire Plan. This plan places a priority on collaborative work within communities to reduce their risk from large-scale wildfires.

Healthy Forest Initiative (HFI) 2002/Healthy Forest Restoration ACT (HFRA) 2003

In August 2002, the Healthy Forests Initiative (HFI) was launched with the intent to reduce the severe wildfires risks that threaten people, communities, and the environment. Congress then passed the Healthy Forests Restoration Act (HFRA) on December 3, 2003 to provide the additional administrative tools needed to implement the HFI. The HFRA strengthened efforts to restore healthy forest conditions near communities by authorizing measures such as expedited environmental assessments for hazardous fuels projects on federal land. This Act emphasized the need for federal agencies to work collaboratively with communities in developing hazardous fuel reduction projects and places priority on fuel treatments identified by communities themselves in their Community Wildfire Protection Plans.

Department of the Interior Department Manual Part 620

Wildland Fire Management. Part 620 of the Department of the Interior Departmental Manual pertains to wildland fire management policies, with the goal of providing an integrated approach to wildland fire management. The guiding principles of the plan emphasize the need for public health and safety considerations, risk management protocols, inter-agency collaboration, and economic feasibility of wildfire management practices, as well as the ecological role of wildfires.

STATE

California Strategic Fire Plan

This statewide plan is a strategic document, which guides fire policy for much of California. The plan is aimed at reducing wildfire risk through pre-fire mitigation efforts tailored to local areas through assessments of fuels, hazards, and risks.

California State Multi-Hazard Mitigation Plan

The purpose of the State Multi-Hazard Mitigation Plan (SHMP) is to significantly reduce deaths, injuries, and other losses attributed to natural- and human-caused hazards in California. The SHMP provides guidance for hazard mitigation activities emphasizing partnerships among local, state, and federal agencies as well as the private sector.

California Government Code

California Government Code Section 65302.5 requires the State Board of Forestry and Fire Protection to provide recommendations for a local jurisdiction's General Plan fire safety element when the jurisdiction amends its general plan. While not a direct and binding fire prevention requirement for individuals, general plans that adopt the Board's recommendations will include goals and policies that provide for contemporary fire prevention standards for the jurisdiction.

While the State Board of Forestry and Fire Protection has not specifically commented on the Proposed General Plan at the time that this EIR was written, the Proposed General Plan has been developed to include best practices to ensure contemporary fire prevention standards, as described in greater detail under the impact discussions below.

California Government Code Section 51175 defines Very High Fire Hazard Severity Zones and designates lands considered by the State to be a very high fire hazard.

California Government Code Section 51189 directs the Office of the State Fire Marshal to create building standards for wildland fire resistance. The code includes measures that increase the likelihood of a structure withstanding intrusion by fire (such as building design and construction requirements that use fire-resistant building materials) and provides protection of structure projections (such as porches, decks, balconies and eaves), and structure openings (such as attics, eave vents, and windows).

California Public Resource Code

The State's Fire Safe Regulations are set forth in Public Resources Code §4290, which include the establishment of SRAs.

Public Resources Code §4291 sets forth defensible space requirements, which are applicable to anyone that ...owns, leases, controls, operates, or maintains a building or structure in, upon, or adjoining a mountainous area, forest-covered lands, brush-covered lands, grass-covered lands, or land that is covered with flammable material (§4291(a)).

Public Resources Code § 4292-4296 and 14 CCR 1256: Fire Prevention for Electrical Utilities address the vegetation clearance standards for electrical utilities. They include the standards for clearing around energy lines and conductors such as power-line hardware and power poles. These regulations are critical to wildland fire safety because of the substantial number of power lines in wildlands, the historic source of fire ignitions associated with power lines, and the extensive damage that results from power line caused wildfires in severe wind conditions.

Assembly Bill 337

Per AB 337, local fire prevention authorities and the California Department of Forestry and Fire Protection (CalFire) are required to identify "Very High Fire Hazard Severity Zones (VHFHSZ) in Local Responsibility Areas (LRA). Standards related to brush clearance and the use of fire resistant materials in fire hazard severity zones are also established.

CA Fire Code

The CA Fire Code (CFC) establishes standards related to the design, construction, and maintenance of buildings. The standards set forth in the CFC range from designing for access by firefighters and equipment and minimum requirements for automatic sprinklers and fire hydrants to the appropriate storage and use of combustible materials.

CA Code of Regulations Title 8

In accordance with CCR, Title 8, §1270 and §6773 (Fire Prevention and Fire Protection and Fire Equipment), the Occupational Safety and Health Administration (Cal OSHA) establishes fire

suppression service standards. The standards range from fire hose size requirements to the design of emergency access roads.

CA Code of Regulations Title 14 (Natural Resources)

Division 1.5 (Department of Forestry and Fire Protection), Title 14 of the CCR establishes a variety of wildfire preparedness, prevention, and response regulations.

CA Code of Regulations Title 19 (Public Safety)

Title 19 of the CCR establishes a variety of emergency fire response, fire prevention, and construction and construction materials standards.

CA Code of Regulations Title 24 (CA Building Standards Code)

The California Fire Code is set forth in Part 9 of the Building Standards Code. The CA Fire Code contains fire-safety building standards referenced in other parts of Title 24.

California Health and Safety Code §1300 et seq., CA Building Codes

State fire regulations are set forth in §13000 et seq. of the California Health and Safety Code, which is divided into “Fires and Fire Protection” and “Buildings Used by the Public.” The regulations provide for the enforcement of the CA Building Codes and mandate the abatement of fire hazards.

The code establishes broadly applicable regulations, such as standards for buildings and fire protection devices, in addition to regulations for specific land uses, such as childcare facilities and high-rise structures.

CA Health and Safety Code Division 11 (Explosives)

Division 11 of the Health and Safety Code establishes regulations related to a variety of explosive substances and devices, including high explosives and fireworks. Section 12000 et seq. establishes regulations related to explosives and explosive devices, including permitting, handling, storage, and transport (in quantities greater than 1,000 pounds).

CA Health and Safety Code Division 12.5 (Buildings Used by the Public)

This Division establishes requirements for buildings used by the public, including essential services buildings, earthquake hazard mitigation technologies, school buildings, and postsecondary buildings.

California Senate Bill No. 1241.

California Senate Bill No. 1241 requires that the Safety Element component of city or county general plans to incorporate fire risk related to SRAs and Very High Fire Hazard Severity Zones.

3.16.3 IMPACTS AND MITIGATION MEASURES

THRESHOLDS OF SIGNIFICANCE

Consistent with Appendix G of the CEQA Guidelines, the proposed project will have a significant impact related to wildfires if located in or near state responsibility areas or lands classified as very high fire hazard severity zones, the project would:

- Substantially impair an adopted emergency response plan or emergency evacuation plan.
- Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire.
- Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment.
- Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes.

IMPACTS AND MITIGATION MEASURES

Impact 3.16-1: General Plan implementation could substantially impair an adopted emergency response plan or emergency evacuation plan (Less than Significant)

The General Plan would allow a variety of new development, including residential, commercial, industrial, and public service projects, which would result in increased jobs and population in Glenn County. Road and infrastructure improvements would occur to accommodate the new growth as further discussed in Chapter 3.14 (Transportation). Future projects are not anticipated to remove or impede evacuation routes, and the General Plan does not include land uses, policies, or other components that conflict with adopted emergency response or evacuation plans. Glenn County Office of Emergency Services is an emergency management program that integrates with all response agencies within the County. This entity provides mutual aid to communities via the Glenn County Sheriff's Department and the State of California Office of Emergency Services.

The proposed Glenn County General Plan is a policy document that does not include any site specific designs or proposals and does not propose any entitlements for development that would have the potential to impair or conflict with an adopted emergency response or evacuation plan. Any future development projects that would implement the General Plan, including buildout of uses contemplated under the proposed Land Use Map, would be subject to all applicable County regulations, reviews, and requirements pertaining to emergency response, emergency access, and maintaining emergency evacuation routes, as well as further CEQA analysis of project-specific impacts.

The General Plan ensures that the County maintains adequate emergency access as well as staffing, training, station locations, emergency response. Important new critical facilities would also be located to ensure resiliency and functionality in the event of a natural disaster. Implementation of the General Plan would have a **less than significant** impact with regard to this issue.

GENERAL PLAN POLICIES AND ACTIONS THAT MINIMIZE POTENTIAL IMPACTS

SAFETY ELEMENT POLICIES

SA 3-1: Ensure that during natural catastrophes and emergency situations, the County can continue to provide essential emergency services.

SA 3-2: Ensure that new critical facilities are located in areas that minimize exposure to potential natural hazards.

SA 3-3: Promote ongoing training of County staff on their functions and responsibilities in disaster preparedness.

SA 3-4: Ensure that critical facilities are properly supplied and equipped to provide emergency services.

SA 3-5: Coordinate with the California Emergency Management Agency to ensure coordinated local and state-level responses in the event of an emergency.

SA 3-6: Support local and regional disaster planning and emergency response planning efforts, and look for opportunities to collaborate and share resources with other municipalities in the region.

CIRCULATION ELEMENT POLICIES

CIR 1-9: Maintain hazard and emergency responsiveness through a climate change vulnerability assessment that identifies measures to address vulnerabilities, respond to emergencies, and mitigate hazards.

SAFETY ELEMENT ACTIONS

Action SA-3a: Continue to implement the Local Hazard Mitigation Plan (LHMP) for Glenn County.

Action SA-3b: Conduct periodic emergency response training exercises and or participate in other area exercises to ensure that key members, local leaders, and emergency response personnel are adequately trained and prepared for emergency situations. Critical facilities within the county should also be annually assessed to ensure they are properly supplied.

Action SA-3c: Encourage residents, County staff, and community leaders to participate in disaster training programs, and develop educational programs that will increase public awareness of fire safety and emergency response planning.

Action SA-3d: Provide signage at public buildings and critical facilities that contain Automated External Defibrillators (AEDs).

Action SA-3e: Develop and annually update an emergency contact list and emergency response information on the County's website. The information should include emergency access routes, available emergency resources, and contact information for emergency responders.

Action SA-3f: Coordinate with the Glenn County Disaster Council and the Director of Emergency Services to update the Emergency Response Plan and LHMP periodically, as needed to meet existing and projected future emergency services needs throughout Glenn County.

Action SA-3g: As part of the development review process, consult with the local fire department/district or CalFire in order to ensure that the project provides adequate emergency access.

Action SA-3d: As part of the development review process adopt findings when approving discretionary projects and permits that the project adequately provides for and/or does not impede emergency response.

Action SA-3d: Periodically review and update procedures for local implementation of the County Emergency Operations Plan (EOP).

Action SA-3d: Seek funding from State, Federal, and other sources to assist in emergency management planning, including community education and outreach describing public procedures and evacuation

CIRCULATION ELEMENT ACTIONS

Action CIR-1b: Review and revise roadway standards for community and rural areas to ensure that the standards are adequate to accommodate complete streets, addressing the following factors as applicable: number of travel lanes, lane width, medians, drainage control, shoulder width, pavement striping and markings, parking lanes, bike lanes, fire and emergency response standards, curb and gutter design, landscaped strip, and sidewalk width.

Impact 3.16-2: General Plan implementation would not exacerbate wildfire risks, or thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire (Less than Significant)

Wildfires generally ignite structures in several ways: burning embers landing on the structure or flammable material next to the structure; direct flame contact; and radiant heat from fire close to the structure (IBHS 2018). Embers are the most important cause of home ignition. Embers ignite structures by entering through attic vents, igniting flammable materials around the home (litter in the roof gutter, wood stacks, or wood fencing), or finding their way under roofing materials (California Chaparral Institute 2018).

A wildland urban interface (WUI) is any area where structures and other human developments meet or intermingle with wildland vegetative fuels—the shrubs, trees and grasses. These plants and wildland areas have evolved over time to burn. Developments in the wildland-urban interface exacerbate fire occurrence and fire spread in several ways:

- Increased numbers of human-caused wildfires.
- Wildfires become harder to fight.
- Firefighting resources are diverted from containing the wildfire to protecting lives and homes.
- Letting natural fires burn becomes impossible, leading to build-up of fuel and increasing wildfire hazard further. (Radeloff, Volker, et al., 2018)
- Increased fire frequency tends to eliminate native shrubs, which are replaced by weedy, highly flammable annual grasslands. (USGS 2012)

Air Pollution from Wildfire Smoke is made up of a complex mixture of gases and fine particles produced when wood and other organic materials burn. The biggest health threat from smoke is from fine particles. These microscopic particles can penetrate deep into the lungs. They can cause a range of health problems, from burning eyes and a runny nose to aggravated chronic heart and lung diseases. Some populations are more sensitive than others to smoke—for instance, people with heart or lung diseases, the elderly, children, people with diabetes, and pregnant women (CARB 2005, and Airnow 2018).

The rate of wildfire spread due to slope and wind is generally proportional to the grade upslope and wind speed and associated location downwind.

Fire threat determination is a combination of two factors: 1) fire frequency, or the likelihood of a given area burning, and 2) potential fire behavior (hazard). These two factors are combined to create four threat classes ranging from moderate to extreme. Fire threat can be used to estimate the potential for impacts on various assets and values susceptible to fire. Impacts are more likely to occur and/or be of increased severity for the higher threat classes. As shown on Figure 3.8-1, the majority of the developed portions of the Planning Area (east and west of the Interstate 5 corridor) is located within a Local Responsibility Area (LRA). CalFire has determined that Glenn County has no Very High Fire Hazard Severity Zones (VHFHSZ) within Local Responsibility Areas.

Any future projects contemplated under the General Plan would be required to comply with the provisions of Federal, State, and local requirements related to wildland fire hazards, including State fire safety regulations associated with wildland-urban interfaces, fire-safe building standards, and defensible space requirements as part of the project's approval process. As future development and infrastructure projects are considered by the County, each project would be evaluated for potential impacts, specific to that project, associated with wildland fire hazards as required under CEQA. The General Plan and General Plan Land Use Map does not designate any new urban uses in the areas designated as a High FHSZs. State Responsibility Areas (SRAs) within the Planning Area generally bisect the county from north to south beginning roughly 5 miles west of Interstate 5 moving west through the foothill region. There are several areas designated as Federal Responsibility Areas (FRA) within the Planning Area. The majority of FRA's are located on the western side of the foothill region and include the Dogtown, Alder Springs, Fiddlers Green, and Copper City areas.

The Glenn County General Plan is a policy document that does not include site specific designs or proposals and does not propose any entitlements for development that would have the potential to expose occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire. Any future development projects that would implement the General Plan including buildout of uses allowed under the proposed Land Use Map would be subject to all applicable County regulations, reviews, and requirements pertaining to emergency response, emergency access, and maintaining emergency evacuation routes, as well as being subject to all applicable building code and fire code requirements as well as further CEQA analysis of project-specific impacts for individual development projects.

Nothing in the General Plan will substantially alter the slope, prevailing winds, or other factors that would increase exposure to Glenn County residents, employees or visitors to increased pollutant concentrations from wildfire or result in the uncontrollable spread of a wildfire. General Plan implementation would not exacerbate wildfire risks in very high FHSZs; therefore, these impacts would be **less than significant**. Nonetheless, the General Plan includes Policies and Actions related to minimizing wildfire risk and are included below.

GENERAL PLAN POLICIES AND ACTIONS THAT MINIMIZE POTENTIAL IMPACTS

SAFETY ELEMENT POLICIES

SA 6-1: Require development to reduce risks to life and property associated with wildfire events through adherence to the relevant fire safe standards established in the Glenn County Code, County Ordinances, and other applicable regulations such as the State Fire Safe Regulations. New development that may result in significant wildfire risk, which does not meet the applicable State requirements, shall not be permitted.

SA 6-2: Support management and conservation of forested lands including fuel management strategies in wildland areas to reduce wildfire risks.

SA 6-3: Require adequate fire flow, water source and supply system, including adequate fire flows, prior to development approvals in very high or high Fire Hazard Severity Zones (FHSZs), as defined by Calfire.

SA 6-4: Development projects adjacent to significant wildland, forest, or open space areas with high fuel loads shall prepare and implement wildland fire management plans.

SA 6-5: Continue to implement the Glenn County Multi-Jurisdiction Hazard Mitigation Plan (MJHMP) to reduce risks associated with wildfire throughout Glenn County, and review any new development proposals with High and Very High Fire Hazard Zones for consistency with the MJHMP.

SA 6-6: Continue to implement the Glenn County Community Wildfire Protection Plan (CWPP) to reduce risks associated with wildfire throughout Glenn County, and review any new development proposals with High and Very High Fire Hazard Zones for consistency with the CWPP

SA 6-7: Prior to allowing redevelopment in an area devastated by wildfire, the County shall review safety conditions and require any redevelopment to meet all applicable State and County fire safe development standards.

SAFETY ELEMENT ACTIONS

Action SA-6a: Review, and revise, if necessary, the Glenn County Development Standards to require fire protection methods, including fuels management and adequate water supply, for new development and expansion projects in areas of high and very high Fire Hazard Severity Zones that meet or exceed the requirements established by the State Fire Safe Regulations. Fire protection methods may consist of the establishment of “defensible space” around structures, using fire resistant ground cover, building with fire-resistant roofing materials, fuel load reductions, visible home and street addressing and signage, and other appropriate measures.

Action SA-6b: Consult with the applicable fire protection district/agency during the review of development applications for projects within high and very high Fire Hazard Severity Zones.

Action SA-6c: Implement State recommendations for fire prevention in Fire Hazard Severity Zones.

Action SA-6d: Create public outreach and awareness programs to promote the development of “defensible space” around structures using areas free of fuel loads, fire resistant landscaping and fire-resistant building materials. Any new development within State Responsibility Areas or VHFHSZs shall be required to implement fuel modification efforts to reduce flammable materials around structures, homes, and subdivisions.

Action SA-6e: Periodically review and update key emergency and fire protection plan in Glenn County, including but not limited to the Glenn County Multi-Jurisdiction Hazard Mitigation Plan (MJHMP) and the Glenn County Community Wildfire Protection Plan (CWPP). Future updates to these plans shall consider new growth and policy direction facilitated by this General Plan, and shall meet all applicable State requirements and incorporate industry best practices for fuel reduction and management, fuel breaks between communities, fire safety, emergency evacuation, and post-fire recovery.

Action SA-6f: Identify areas within Glenn County that are not adequately served by multiple evacuation routes which can be used during a fire or other natural disaster. Develop specific plans to improve the capacity, safety, and viability of evacuation routes to serve high-risk areas of the County, including areas located within High and Very High Fire Hazard Zones.

Action SA 6g: As part of any future updates to the MJHMP and the CWPP, identify existing development that does not meet or exceed the State Responsibility (SRA) Fire Safe Regulations, or the applicable Glenn County Development Code and/or Fire Safe Ordinance Requirements. Develop plans to bring these properties into compliance in order to mitigate fire risks. Mitigation plans may include, but are not limited to, improvement of emergency evacuation routes and removal/abatement of vegetative hazards.

Action SA-6h: Any new development proposed within a VHFMSZ shall be required to prepare and implement a fire protection plan that meets all applicable State requirements.

Impact 3.16-3: Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment (Less than Significant)

Development would require the construction and installation of infrastructure, including roads water and sewer and power lines. Development of such infrastructure may increase wildfire risks in the affected areas. Infrastructure required to serve development allowed under the General Plan would generally be located in and along established County roadways and would be located in areas that are already urbanized and are currently served by infrastructure. As such, implementation of the General Plan would not exacerbate wildfire risks.

General Order (GO) 95 of the California Public Utilities Commission (CPUC) regulates all aspects of design, construction, and O&M of overhead electrical power lines and fire safety hazards for utilities subject to its jurisdiction. GO 165 imposes inspection requirements for transmission and distribution

lines, and GO 166 requires emergency response procedures to respond to electric system failures, major outages, or hazards posed by damage to electric utility facilities. Rule 11 enables electric utilities to suspend customer service when minimum vegetation clearance requirements are not met. On February 5, 2014, the CPUC adopted its Decision Adopting Regulations to Reduce the Fire Hazards Associated with Overhead Electric Utility Facilities and Aerial Communications Facilities. (Decision 14-02-015.) In addition to updating various GO 95 requirements and ordering further study, the decision called for creation by the CPUC of a High Fire-Threat District (HFTD) map identifying zones of high hazard, elevated risk and extreme risk for destructive utility-associated wildfires.

On December 21, 2017, the CPUC issued its Decision Adopting Regulations to Enhance Fire Safety in the High Fire Threat District, adding statewide HFTD map requirements to GO 95 and enhancing GO 95's fire safety regulations within HFTD areas. (Decision 17-12-024.) As described in the CPUC's High Fire-Threat District (HFTD) maps Glenn County is not within a Tier 3 – Extreme risk for destructive utility-associated wildfires area. Portions of the Planning Area in the western hillside areas are within the CPUC's Tier 2 – Elevated district.

Development allowed under the General Plan would be required to comply with the applicable provisions of the California Building Code (CBC), and CA Fire Code (CFC). Future developments utility infrastructure would also be subject to the requirements established in the additional Public Resources Code including: Public Resources Code Section 4292, which requires clearing of flammable fuels for a minimum 10-foot radius from the outer circumference of poles and towers; and Public Resources Code Section 4293, which sets basic requirements for clearances around electrical conductors. Furthermore, the future projects would be required to meet vegetation clearance requirements outlined in Title 14, Section 1104.1(d) of the California Code of Regulations for single overhead facilities, and in CPUC General Order 95 requirements for overhead utility lines in high-fire-threat areas.

The General Plan includes requirements for adequate water supply and water flow availability, emergency access, fire protection services, fire safe design site standards, and ensuring public awareness regarding fire safety. All future development projects would be required to be consistent with the Glenn County Code standards related to the California Fire Code and would also be subject to CCR and PUC standard outlined above.

As described previously, the Glenn County General Plan is a long range policy document that does not include site specific designs or proposals, and does not propose or approve any entitlements for development. The majority of all future development would occur within existing developed areas.

The potential for future projects to impact environmental resources to meet compliance with fire development standards such (as fuel breaks and clearance requirements) would require site specific environmental require under CEQA to identify any site-specific impacts. As demonstrated throughout this EIR, implementation of the various policies and actions contained in the General Plan would reduce potential impacts associated with the construction and expansion of infrastructure. Implementation of local and state requirements would ensure that potential wildland

fire hazards would not be exacerbated by local infrastructure, and this impact would be considered **less than significant**.

GENERAL PLAN POLICIES AND ACTIONS THAT MINIMIZE POTENTIAL IMPACTS

SAFETY ELEMENT POLICIES

SA 6-1: Require development to reduce risks to life and property associated with wildfire events through adherence to the relevant fire safe standards established in the Glenn County Code, County Ordinances, and other applicable regulations such as the State Fire Safe Regulations. New development that may result in significant wildfire risk, which does not meet the applicable State requirements, shall not be permitted.

SA 6-2: Support management and conservation of forested lands including fuel management strategies in wildland areas to reduce wildfire risks.

SA 6-3: Require adequate fire flow, water source and supply system, including adequate fire flows, prior to development approvals in very high or high Fire Hazard Severity Zones (FHSZs), as defined by Calfire.

SA 6-4: Development projects adjacent to significant wildland, forest, or open space areas with high fuel loads shall prepare and implement wildland fire management plans.

SA 6-5: Continue to implement the Glenn County Multi-Jurisdiction Hazard Mitigation Plan (MJHMP) to reduce risks associated with wildfire throughout Glenn County, and review any new development proposals with High and Very High Fire Hazard Zones for consistency with the MJHMP.

SA 6-6: Continue to implement the Glenn County Community Wildfire Protection Plan (CWPP) to reduce risks associated with wildfire throughout Glenn County, and review any new development proposals with High and Very High Fire Hazard Zones for consistency with the CWPP

SA 6-7: Prior to allowing redevelopment in an area devastated by wildfire, the County shall review safety conditions and require any redevelopment to meet all applicable State and County fire safe development standards.

SAFETY ELEMENT ACTIONS

Action SA-6a: Review, and revise, if necessary, the Glenn County Development Standards to require fire protection methods, including fuels management and adequate water supply, for new development and expansion projects in areas of high and very high Fire Hazard Severity Zones that meet or exceed the requirements established by the State Fire Safe Regulations. Fire protection methods may consist of the establishment of “defensible space” around structures, using fire resistant ground cover, building with fire-resistant roofing materials, fuel load reductions, visible home and street addressing and signage, and other appropriate measures.

Action SA-6b: Consult with the applicable fire protection district/agency during the review of development applications for projects within high and very high Fire Hazard Severity Zones.

Action SA-6c: Implement State recommendations for fire prevention in Fire Hazard Severity Zones.

Action SA-6d: Create public outreach and awareness programs to promote the development of “defensible space” around structures using areas free of fuel loads, fire resistant landscaping and fire-resistant building materials. Any new development within State Responsibility Areas or VHFHSZs shall be required to implement fuel modification efforts to reduce flammable materials around structures, homes, and subdivisions.

Action SA-6e: Periodically review and update key emergency and fire protection plan in Glenn County, including but not limited to the Glenn County Multi-Jurisdiction Hazard Mitigation Plan (MJHMP) and the Glenn County Community Wildfire Protection Plan (CWPP). Future updates to these plans shall consider new growth and policy direction facilitated by this General Plan, and shall meet all applicable State requirements and incorporate industry best practices for fuel reduction and management, fuel breaks between communities, fire safety, emergency evacuation, and post-fire recovery.

Action SA-6f: Identify areas within Glenn County that are not adequately served by multiple evacuation routes which can be used during a fire or other natural disaster. Develop specific plans to improve the capacity, safety, and viability of evacuation routes to serve high-risk areas of the County, including areas located within High and Very High Fire Hazard Zones.

Action SA 6g: As part of any future updates to the MJHMP and the CWPP, identify existing development that does not meet or exceed the State Responsibility (SRA) Fire Safe Regulations, or the applicable Glenn County Development Code and/or Fire Safe Ordinance Requirements. Develop plans to bring these properties into compliance in order to mitigate fire risks. Mitigation plans may include, but are not limited to, improvement of emergency evacuation routes and removal/abatement of vegetative hazards.

Action SA-6h: Any new development proposed within a VHFMSZ shall be required to prepare and implement a fire protection plan that meets all applicable State requirements.

Impact 3.16-4: Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes (Less than Significant)

Debris flows and post-fire earthflow hazards include fast-moving, highly destructive debris flows that can occur in the years immediately after wildfires in response to high intensity rainfall events, and flows that are generated over longer time periods that are accompanied by root decay and loss of soil strength. Post-fire debris flows are particularly hazardous because they can occur with little warning, exert great impulsive loads on objects in their paths, strip vegetation, block drainage ways, damage structures, and endanger human life. Debris flows differ from mudflows in that debris flows are composed of larger particles. Fires increase the potential for debris flows in two ways:

1. Fires may bake soil into a hard crust that repels water.

2. Fires destroy vegetation that would slow and absorb rainfall and whose roots would help stabilize soil. (USGS 2018)

Post-fire debris flows are most common in the two years after a fire. It takes much less rainfall to trigger debris flows from burned basins than from unburned areas. In portions of California, as little as 0.3 inch of rainfall in 30 minutes has triggered debris flows, and any storm that has intensities greater than about 0.4 inch per hour can produce debris flows (USGS 2017). The burning of vegetation and soil on slopes more than doubles the rate that water will run off into watercourses (CGS 2018a).

Expansion of man-made developments into fire-prone wildlands has created situations where fast-moving, highly destructive debris flows triggered by intense rainfall are one of the most dangerous post-fire hazards. Such debris flows are particularly dangerous because they tend to occur with little warning.

After fire events, local creeks, steep slopes and seasonal drainages may become susceptible to increased runoff, landslides and debris flows as a result of cover changes as a result of wildfire. Landslide and slope stability is influenced by physical factors, such as slope, soil, vegetation, and precipitation. Landslides require a slope, and can occur naturally from seismic activity, excessive saturation, and wildfires, or from human-made conditions such as construction disturbance, vegetation removal, wildfires, etc. The Planning Area is generally flat. Therefore, the potential for landslides is generally low. The areas of highest apparent landslide potential in the County generally correlate with relief. Those areas having the highest potential occur in the mountainous western portion of the County, while lower potential areas occur in the lower relief eastern portion of the County.

FEMA mapping provides important guidance for the County in planning for flooding events and regulating development within identified flood hazard areas. FEMA's National Flood Insurance Program (NFIP) is intended to encourage State and local governments to adopt responsible floodplain management programs and flood measures. As part of the program, the NFIP defines floodplain and floodway boundaries that are shown on Flood Insurance Rate Maps (FIRMs). The FEMA FIRM for the Planning Area is shown on Figure 3.9-3 (located in the Hydrology and Water Quality Chapter of this DEIR). As shown on Figure 3.9-3, a large area within east Glenn County along Sacramento River is located within a mapped portion of the 100- year and 500- year FEMA flood zones. The majority of this area is generally located in the lower and flatter portion of the Planning Area. Risks of flooding along this area exists and flooding within this area would be likely to affect a large area of existing development. However, some areas within the mountainous portion of Glenn County around Stony Gorge Reservoir and Black Butte Lake and along Elk Creek are mapped of the 100- year FEMA flood zones. As shown in Figure 3.8-1, a significant portion of these areas are located in High to Very High Fire Hazard Severity Zones in State Responsibility Areas (SRAs). Therefore, debris flow could potentially occur if major fires happen in these areas. Several major fires have recently impacted the Planning Area, such as Mendocino Complex in July 2018 and August Complex in August 2020. Area fires are likely to impact the potential for local debris flows on local waterways within the Planning Area, as a significant portion of wildfire prone areas are close to in the mountainous portions of the Planning Area along local drainages. For example, in 2020, August Complex burned

in the Coast Range of Northern California, including its east portion located in Glenn County. However, these areas contain limited development and generally wouldn't impact the urban portions of the County other than Elk Creek.

The General Plan would allow development and improvement projects that would involve some land clearing, grading, and other ground-disturbing activities that could temporarily increase soil erosion rates during and shortly after project construction. The majority of intensified development would occur in areas of the County that are currently developed with urban uses and are generally not subject to severe flooding or erosion.

As future development and infrastructure projects are considered by the County, each project will be evaluated for conformance with the CBC, Zoning Ordinance, and other regulations. In addition to compliance with County standards and policies, the Regional Water Quality Control Board will require a project specific Storm Water Pollution Prevention Plan (SWPPP) to be prepared for each project that disturbs an area of one acre or larger. As required by the Clean Water Act, each subsequent development project or improvement project will require an approved Storm Water Pollution Prevention Plan (SWPPP) that includes best management practices for grading and preservation of topsoil. SWPPPs are designed to control storm water quality degradation to the extent practicable using best management practices during and after construction.

The General Plan requires the County to review all development projects to identify potential stormwater and drainage impacts and require development to include measures to ensure that off-site runoff is not increased as a beyond pre-development levels during rain and flood events. Additionally, policies under the proposed General Plan require that all new developments and redevelopments in areas susceptible to flooding incorporate mitigation measures designed to reduce flood hazards and ensures the County maintains adequate infrastructure and regularly assesses the status of local storm drainage infrastructure to ensure that the system can adequately reduce flood hazards. Further, all future development allowed under the General Plan would be subject to all existing building codes and development standards described above to control for runoff, instability, and drainage issues.

The topography in the majority of the developed portions of the Planning Area is considered relatively flat and would generally not be subject to debris flows. In the event that a significant wildfire was to burn in the mountainous portions of the Planning Area, west portions of the Planning Area may be exposed to potential risks associated with landslides, debris flows, and flooding in the weeks, months following the fire as a result in changes to the vegetative cover of the land and the rain absorption capacity of the soil. It is important to note that the most areas within the Planning Area at-risk of exposure to these potential impacts are sparsely developed. Adoption of the proposed General Plan would not increase or exacerbate these risks, however, specific areas would still remain at risk in the event of a significant wildfire occurs in the County.

While the County cannot state with certainty that future increased risks associated with post-fire runoff and debris flows would not occur in Glenn County, for the reasons explained above, implementation of the General Plan would not exacerbate this risk beyond the existing environmental conditions and this impact would be considered **less than significant**.

GENERAL PLAN POLICIES AND ACTIONS THAT MINIMIZE POTENTIAL IMPACTS

SAFETY ELEMENT POLICIES

SA 2-1: Support and participate in planning efforts undertaken at the local, regional, State, and Federal levels to improve flood management facilities and dam safety throughout the County.

SA 2-2: Require all new development projects to demonstrate how storm water runoff will be detained or retained on-site, treated, and/or conveyed to the nearest drainage facility as part of the development review process. Project applicants shall demonstrate that project implementation would not result in increases in the peak flow runoff to adjacent lands or drainage facilities that would exceed the design capacity of the drainage facility or result in an increased potential for off-site flooding.

SA 2-3: Ensure that construction activities and new development projects will not result in adverse impacts to existing properties and flood control and drainage structures.

SA 2-4: Unless otherwise mitigated, require new structures to be located outside of the 100-year floodplain. All new development within an identified Flood Hazard Area shall be built according to Federal Emergency Management Agency (FEMA) standards.

SA 2-5: Encourage and accommodate multipurpose flood control projects that incorporate recreation, resource conservation, preservation of natural riparian habitat, and scenic values of drainages, creeks, and detention ponds. Where appropriate and feasible, encourage the use of water detention facilities for use as groundwater recharge facilities.

SA 2-6: Encourage flood control measures that respect natural drainage features, vegetation, and natural waterways, while still providing for adequate flood control and protection.

SA 2-7: Ensure that any development activity that requires a grading permit does not impact adjacent properties, local creeks and storm drainage systems by designing and building the site to drain properly to minimize drainage issues, erosion, and sedimentation.

SA 2-8: Ensure that new development and infrastructure improvements do not compound the potential for flooding.

SA 2-9: Ensure that adequate drainage and erosion control measures are provided during construction of all new development.

SA 2-10: Recognize the special status of lands located within the designated floodways adopted by the State Reclamation Board, and maintain designated floodways as open space and limit uses to low intensity uses such as agriculture, passive recreation, preservation of vegetation and wildlife habitat, and scenery; provided such uses do not impede floodwaters or pose a threat to public safety.

SA 2-11: Monitor and participate in efforts by the Central Valley Flood Protection Board (CVFPB) to increase flood safety throughout the region.

SA 2-12: Support and encourage the efforts of public agencies and private landowners to maintain and improve existing flood management facilities and encourage the California Department of Fish and Wildlife (CDFW) to expedite the issuance of permits necessary clean and maintain regulated drainage channels.

SA 2-13: Monitor ongoing efforts by FEMA and the California Department of Water Resources (DWR) to update flood hazard maps within Glenn County.

SA 2-14: Require new development proposals in dam inundation areas to consider risks from failure of these dams.

SA 6-1: Require development to reduce risks to life and property associated with wildfire events through adherence to the relevant fire safe standards established in the Glenn County Code, County Ordinances, and other applicable regulations such as the State Fire Safe Regulations. New development that may result in significant wildfire risk, which does not meet the applicable State requirements, shall not be permitted.

SA 6-2: Support management and conservation of forested lands including fuel management strategies in wildland areas to reduce wildfire risks.

SA 6-3: Require adequate fire flow, water source and supply system, including adequate fire flows, prior to development approvals in very high or high Fire Hazard Severity Zones (FHSZs), as defined by Calfire.

SA 6-4: Development projects adjacent to significant wildland, forest, or open space areas with high fuel loads shall prepare and implement wildland fire management plans.

SA 6-5: Continue to implement the Glenn County Multi-Jurisdiction Hazard Mitigation Plan (MJHMP) to reduce risks associated with wildfire throughout Glenn County, and review any new development proposals with High and Very High Fire Hazard Zones for consistency with the MJHMP.

SA 6-6: Continue to implement the Glenn County Community Wildfire Protection Plan (CWPP) to reduce risks associated with wildfire throughout Glenn County, and review any new development proposals with High and Very High Fire Hazard Zones for consistency with the CWPP

SA 6-7: Prior to allowing redevelopment in an area devastated by wildfire, the County shall review safety conditions and require any redevelopment to meet all applicable State and County fire safe development standards.

SA 6-8: Participate in regional climate adaptation planning efforts.

SAFETY ELEMENT ACTIONS

Action SA-2a: As part of the development review process require new development projects to prepare hydraulic and storm drainage studies as necessary to define the net increase in storm water run-off resulting from construction and require mitigation to reduce impacts. Drainage and grading

plans shall identify best management practices (BMP) protections and include standards established and recommended by the County that shall be incorporated into development.

Action SA-2b: Require property owners and farmers to demonstrate that significant land alterations and site grading will not result in offsite flooding or changes in drainage patterns that would lead to offsite flooding, such as increases in runoff volume or velocity. Grading projects that affect five or more acres shall be required to obtain a land leveling permit from the Department of Public Works.

Action SA-2c: Continue to participate in the National Flood Insurance Program (NFIP), and consider future participation in the NFIP Community Rating System (CRS).

Action SA-2d: Continue to review projects in flood hazard areas to ensure compliance with the Glenn County Code.

Action SA-2e: Periodically review the conditions of bridges, culverts, canals and other flood control and stormwater conveyance infrastructure, and when feasible include necessary improvements within the Capital Improvement Program (CIP) to increase safety and the adequate conveyance of stormwater.

Action SA-2f: Periodically Review Glenn County Code, and revise as necessary to ensure that development standards are consistent with the requirements of State and Federal law.

Action SA-2g: Coordinate with the local reclamation districts, state and federal agencies to improve levee systems.

Action SA-2h: Address emergency evacuation and disaster preparedness in the event of dam failure as part of the emergency response planning efforts identified in Actions SA 1-A and SA 1-B.

Action SA-2h: Educate property owners and farms on the potential for changes to property drainage infrastructure and grading to increase localized flooding risks and the impacts this may cause, including damage to county infrastructure and facilities.

Action SA-6a: Review, and revise, if necessary, the Glenn County Development Standards to require fire protection methods, including fuels management and adequate water supply, for new development and expansion projects in areas of high and very high Fire Hazard Severity Zones that meet or exceed the requirements established by the State Fire Safe Regulations. Fire protection methods may consist of the establishment of “defensible space” around structures, using fire resistant ground cover, building with fire-resistant roofing materials, fuel load reductions, visible home and street addressing and signage, and other appropriate measures.

Action SA-6b: Consult with the applicable fire protection district/agency during the review of development applications for projects within high and very high Fire Hazard Severity Zones.

Action SA-6c: Implement State recommendations for fire prevention in Fire Hazard Severity Zones.

Action SA-6d: Create public outreach and awareness programs to promote the development of “defensible space” around structures using areas free of fuel loads, fire resistant landscaping and

fire-resistant building materials. Any new development within State Responsibility Areas or VHFMSZs shall be required to implement fuel modification efforts to reduce flammable materials around structures, homes, and subdivisions.

Action SA-6e: Periodically review and update key emergency and fire protection plans in Glenn County, including but not limited to the Glenn County Multi-Jurisdiction Hazard Mitigation Plan (MJHMP) and the Glenn County Community Wildfire Protection Plan (CWPP). Future updates to these plans shall consider new growth and policy direction facilitated by this General Plan, and shall meet all applicable State requirements and incorporate industry best practices for fuel reduction and management, fuel breaks between communities, fire safety, emergency evacuation, and post-fire recovery.

Action SA-6f: Identify areas within Glenn County that are not adequately served by multiple evacuation routes which can be used during a fire or other natural disaster. Develop specific plans to improve the capacity, safety, and viability of evacuation routes to serve high-risk areas of the County, including areas located within High and Very High Fire Hazard Zones.

Action SA 6g: As part of any future updates to the MJHMP and the CWPP, identify existing development that does not meet or exceed the State Responsibility (SRA) Fire Safe Regulations, or the applicable Glenn County Development Code and/or Fire Safe Ordinance Requirements. Develop plans to bring these properties into compliance in order to mitigate fire risks. Mitigation plans may include, but are not limited to, improvement of emergency evacuation routes and removal/abatement of vegetative hazards.

Action SA-6h: Any new development proposed within a VHFMSZ shall be required to prepare and implement a fire protection plan that meets all applicable State requirements.

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CEQA requires an EIR to evaluate a project's effects in relationship to broader changes that are occurring or that may foreseeably occur, in the surrounding environment. Accordingly, this chapter presents discussion of CEQA-mandated analysis for cumulative impacts, irreversible impacts, and growth inducement associated with the proposed General Plan.

4.1 CUMULATIVE SETTING AND IMPACT ANALYSIS

INTRODUCTION

CEQA requires that an EIR contain an assessment of the cumulative impacts that could be associated with the General Plan. According to CEQA Guidelines Section 15130(a), “an EIR shall discuss cumulative impacts of a project when the project’s incremental effect is cumulatively considerable.” “Cumulatively Considerable,” as defined in section 15065(a)(3), means that “the incremental effects of an individual project are significant when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects” (as defined by Section 15130). As defined in CEQA Guidelines Section 15355, a cumulative impact consists of an impact that is created as a result of the combination of the project evaluated in the EIR together with other projects causing related impacts. A cumulative impact occurs from:

...the change in the environment which results from the incremental impact of the project when added to other closely related past, present, and reasonably foreseeable future projects. Cumulative impacts can result from individually minor but collectively significant projects taking place over a period of time.

In addition, Section 15130(b) identifies that the following three elements are necessary for an adequate cumulative analysis:

1) Either:

(A) A list of past, present, and probable future projects producing related or cumulative impacts, including, if necessary, those projects outside the control of the agency; or,

(B) A summary of projections contained in an adopted local, regional or statewide plan, or related planning document, that describes or evaluates conditions contributing to the cumulative effect. Such plans may include: a general plan, regional transportation plan, or plans for the reduction of greenhouse gas emissions. A summary of projections may also be contained in an adopted or certified prior environmental document for such a plan. Such projections may be supplemented with additional information such as a regional modeling program. Any such planning document shall be referenced and made available to the public at a location specified by the lead agency.

2) A summary of the expected environmental effects to be produced by those projects with specific reference to additional information stating where that information is available; and

4.0 OTHER CEQA-REQUIRED TOPICS

3) A reasonable analysis of the cumulative impacts of the relevant projects. An EIR shall examine reasonable, feasible options for mitigating or avoiding the project’s contribution to any significant cumulative effects.

Where a lead agency is examining a project with an incremental effect that is not “cumulatively considerable,” a lead agency need not consider that effect significant, but shall briefly describe its basis for concluding that the incremental effect is not cumulatively considerable.

CUMULATIVE SETTING

Under CEQA, the discussion of cumulative impacts should focus on the severity of the impacts and the likelihood of their occurrence. The geographic scope for the cumulative analysis covers the entire Glenn County Planning Area, which includes all lands located within the county, as shown on Figures 2.0-1 and 2.0-2 (see Chapter 2.0: Project Description). It should be noted that, for some environmental topics, the geographic scope for the cumulative analysis covers the boundaries of Glenn County, the Air Basin, and/or other jurisdictional boundaries that are relevant to the particular environmental topic.

In most cases in this EIR, the buildout analysis utilizes a 20-year horizon, and 2040 is assumed to be the buildout year of the General Plan. The year 2040 is used as the benchmark year for the cumulative analysis contained in this EIR. This year was chosen based on the fact that the General Plan was developed as an approximate 20-year plan for Glenn County.

Land Use/Growth Projections

As shown on Table 4.0-1, projected buildout of the 2040 General Plan is estimated to accommodate up to 773 new housing units in Glenn County by 2040, and 531,250 additional square feet of job-generating, non-residential development. This growth would result in a population increase of approximately 2,172 persons and an increase in employment by 745 jobs. Development totals, which include projected development through 2040 and existing development, are shown in Table 4.0-1 below.

TABLE 4.0-1: GROWTH PROJECTIONS

	Population	Dwelling Units	Non-Residential Square Feet	Jobs	Jobs per Housing Unit
Existing Conditions					
	14,917	5,810	2,951,366	4,204	0.724
New Growth Potential					
Proposed General Plan	2,172	773	531,250	745	0.964
Total Growth: Existing Plus New Growth Potential					
Proposed General Plan	17,089	6,583	3,482,616	4,949	0.752

SOURCES: GLENN COUNTY GIS DATASET, DE NOVO PLANNING GROUP 2022; Glenn County Assessor 2018; California Department of Finance 2020; U.S. Census OnTheMap 2019 employment estimates.

The Land Use Element of the General Plan defines various land use designations by their allowable uses, and maximum development densities. The following describes the proposed land use designations for the General Plan. Table 4.0-2 shows the total number of parcels and total acreages for each land use designation shown on the proposed Land Use Map.

TABLE 4.0-2: GENERAL PLAN LAND USE DESIGNATIONS

LAND USE DESIGNATION	PARCELS	ACREAGE
Ag Transition	33	894.45
Agricultural/Residential	5	124.11
Business Park Light Industrial	26	541.35
Community Commercial	97	252.57
Foothill Agriculture/Forestry	1,248	290,610.86
General Agriculture	754	13,125.93
Highway and Service Commercial	181	1,675.76
Industrial	178	2,352.72
Intensive Agriculture	3,704	299,551.13
Mixed Use	18	124.76
Multiple Family Residential	127	157.79
Public Facilities	15	717.10
Recreation	528	213,134.14
Rural Residential	565	3,670.17
Rural Service Center	29	117.39
Single Family Residential	1,318	2,044.83
Suburban Residential	827	2,359.63
Urban Reserve	157	2,884.93
Total	9,810	834,339.62

SOURCES: GLENN COUNTY GIS DATASET, DE NOVO PLANNING GROUP 2022. Glenn County Assessor 2018.

CUMULATIVE EFFECTS OF THE PROJECT

Method of Analysis

Although the environmental effects of an individual project may not be significant when that project is considered separately, the combined effects of several projects may be significant when considered collectively. Section 15130 of the CEQA Guidelines requires a reasonable analysis of a project's cumulative impacts, which are defined as "two or more individual effects which, when considered together are considerable or which compound or increase other environmental impacts." The cumulative impact that results from several closely related projects is: the change in the environment which results from the incremental impact of the project when added to other closely related past, present, and reasonably foreseeable probable future projects. Cumulative impacts can result from individually minor but collectively significant projects taking place over a period of time (State CEQA Guidelines 15355[b]). Cumulative impact analysis may be less detailed than the analysis of the project's individual effects (State CEQA Guidelines 15130[b]).

In order to assess cumulative impacts, an EIR must analyze either a list of past, present, and probable future projects (referred to as the "list approach") or a summary of projections contained in an adopted general plan or related planning document (referred to as the "projection method"). Because of the programmatic nature of the Glenn County General Plan, this Draft EIR uses the **projection method** for the cumulative analysis and considers buildout of the proposed General Plan in addition to buildout of the other General Plans within the County, as summarized and addressed in the Glenn County 2020 Regional Transportation Plan (2020 RTP). Development of the RTP included review of land use plans for each jurisdiction within Glenn County, including:

- Glenn County
- City of Willows
- City of Orland

According to the US Census, the population of Glenn County (including the cities of Orland and Willows) increased by approximately 15.1% each decade from 1970 to 2010. During the 40-year period, the population grew from 17,521 to 28,122. The California DOF projects that the population of Glenn County will increase 11.5% between 2020 and 2040, which translates to an average annual increase of 0.57%. Over the 20 year lifetime of the Regional Transportation Plan, the population of 29,585 is expected to increase to 32,977 by 2040.

Cumulative Impacts

Cumulative impacts for most issue areas are not quantifiable and are therefore discussed in general qualitative terms as they pertain to development patterns in the surrounding region. An exception to this is a topic like traffic, which may be quantified by estimating future traffic patterns, pollutant emitters, etc. and determining the combined effects that may result. In consideration of the cumulative scenario described above, the proposed project may result in the following cumulative impacts.

AESTHETICS AND VISUAL RESOURCES

Impact 4.1: Cumulative degradation of the existing visual character of the region (Less than Cumulatively Considerable)

While the Planning Area contains areas and viewsheds with relatively high scenic value, there are no officially designated scenic vista points in the Planning Area. Additionally, as described in Chapter 3.1, there are no officially designated scenic highways located in the Planning Area. Significant visual resources in the Planning Area include foothill views, and views of agricultural lands.

As noted in greater detail in the Project Description (Chapter 2.0), implementation of the proposed General Plan could lead to new and expanded development throughout the Planning Area. This new development could result in changes to the skyline throughout the Planning Area, which may obstruct or interfere with views of visual features surrounding the Planning Area. Furthermore, buildout under the proposed General Plan and implementation of the General Plan Land Use Map has the potential to result in new and expanded development along highway corridors with scenic values, even though these corridors are not officially designated as State Scenic Highways.

While growth is anticipated to occur in the Planning Area and within the incorporated cities within Glenn County, the majority of growth is anticipated to occur in and around existing developed areas. Regional growth has and will continue to result in a cumulative aesthetic effect by converting undeveloped land into developed and occupied areas and increasing overall levels of nighttime lighting. Cumulative development entails grading/landform alteration, the development of structures, and the installation of roadways and other infrastructure that has altered and will continue to permanently alter the region's existing visual character. This is considered a potentially significant cumulative impact. Subsequent projects implemented under the proposed General Plan would be required to be consistent with the policies and actions of the proposed General Plan and adopted regulations pertaining to aesthetics and lighting in Glenn County. With implementation of policies and regulations provided in Section 3.1 (Aesthetics and Visual Resources), the proposed General Plan would not considerably contribute to permanent changes in visual character, such as obstruction of scenic views, conversion of existing visual character, and increased lighting. The policies and actions included within the General Plan would fully reduce the cumulative effect of the General Plan on visual character, to reduce the proposed project's contribution to a less-than-significant level. Therefore, the proposed General Plan's incremental contribution to this cumulative impact would be **less than cumulatively considerable**.

AGRICULTURAL AND FOREST RESOURCES

Impact 4.2: Cumulative impact to agricultural lands and resources (Cumulatively Considerable and Significant and Unavoidable)

As described in Chapter 3.2, there are 158,306.96 acres of Prime Farmland, 89,048.61 acres of Farmland of Statewide Importance, 19,496.20 acres of Unique Farmland, and 28,929.93 acres of Farmland of Local Importance in the Planning Area.

The General Plan has taken a proactive approach to developing policies and actions that provide protection and preservation of agricultural lands are identified under Impact 3.2-1 and 3.2-2.

However, there are currently undeveloped parcels within the Planning Area that are classified as Prime Farmlands or Important Farmlands, some of which are actively farmed. While not all these farmlands are currently designated for agricultural uses, they are still considered to be agricultural resources.

As described in greater detail under Impact 3.2-1, there is no feasible mitigation available to reduce this impact to a less than significant level. Conversions of farmland within the County over the buildout period is also likely to occur. Furthermore, there are lands within the Planning Area that are currently under a Williamson Act contracts. Policies and actions identified in Chapter 3.2 would reduce impacts to these lands, and other General Plans in Glenn County have also mitigated potential impacts to agricultural resources. Nevertheless, this is considered a **cumulatively considerable and significant and unavoidable** impact.

AIR QUALITY

Impact 4.3: Cumulative impact on the region's air quality (Cumulatively Considerable and Significant and Unavoidable)

With respect to local air quality emissions, toxic air contaminant emissions, and health impacts, future development under the General Plan would be required to comply with CARB, Title 24 energy efficiency standards, and the proposed General Plan policies and actions.

As described in Chapter 3.3, implementation of the proposed Project would result in an increase in overall VMT. Additionally, as described previously in Chapter 3.3, Glenn County has a State designation of Nonattainment for O₃, PM₁₀, and PM_{2.5} and is either Unclassified or Attainment for all other criteria pollutants. The County has a national designation of Nonattainment for O₃ and PM_{2.5}. The County is designated either attainment or unclassified for the remaining national standards. The Glenn County APCD does not provide criteria pollutant thresholds for General Plans (such as the proposed Project). As such, there is no programmatic threshold of significance established for criteria pollutants for which to compare the proposed General Plan.

Additionally as described in Chapter 3.14 (Transportation and Circulation) of this DEIR, the proposed General Plan would result in decreased per capita VMT, however, would also result in an increase in total VMT in comparison to the existing condition. The policies and actions included throughout the proposed General Plan cover the full breadth of air quality issues and promote air quality and vehicle trip reductions throughout the county. However, even with implementation of the General Plan policies and actions that would reduce criteria pollutant emissions, since the proposed General Plan would allow new development that would increase the overall VMT, and development levels this impact is considered **cumulatively considerable and significant and unavoidable**.

BIOLOGICAL RESOURCES

Impact 4.4: Cumulative loss of biological resources, including habitats and special status species (Less than Cumulatively Considerable)

Cumulative development anticipated throughout the greater Glenn County region will result in impacts to biological resources, including the permanent loss of habitat for special status species,

corridor fragmentation, direct and indirect impacts to special status species, and reduction and degradation of sensitive habitat. Biological resources are a limited resource and the cumulative loss is considered significant.

Subsequent projects implemented under the proposed General Plan would be required to be consistent with the policies and actions of the proposed General Plan. The implementation of an individual project would require a detailed and site-specific review of the site to determine the presence or absence of movement corridors, special-status species, and sensitive habitat on a given project site. If movement corridors, special-status species, or sensitive habitat are present and disturbance is required, Federal and State laws require measures to reduce, avoid, or compensate for impacts to these resources. The requirements of these Federal and State laws are implemented through the permit process. However, as provided under Chapter 3.4 (Biological Resources), with implementation of the policies and actions included within the General Plan, implementation of the General Plan would not generate a significant impact on biological resources. Therefore, the proposed General Plan's incremental contribution to this cumulative impact would be **less than cumulatively considerable**.

CULTURAL AND TRIBAL RESOURCES

Impact 4.5: Cumulative impacts on known and undiscovered cultural resources (Less than Cumulatively Considerable)

Construction of the individual development projects allowed under the land use designations of the proposed General Plan may result in the discovery and removal of cultural resources, including archaeological, historical, and Native American resources and human remains. The proposed General Plan policies and actions, as well as State and Federal regulations, will reduce the risk to resources in the region. As discussed in Chapter 3.5 (Cultural and Tribal Cultural Resources), projects would require specific surveys for potential resources and the evaluation of any resources discovered during construction activities. Other policies and actions designed to reduce impacts to cultural and tribal cultural resources within the Planning Area and the region as a whole are also provided in Chapter 3.5 (Cultural and Tribal Cultural Resources). Adherence to these policies, actions, and regulations will avoid and/or minimize a cumulative loss of these important resources if they are found during project-specific surveys or construction. Therefore, the proposed General Plan's incremental contribution to cumulative cultural resource impacts would be **less than cumulatively considerable**.

GEOLOGY AND SOILS

Impact 4.6: Cumulative impacts related to geology and soils (Less than Cumulatively Considerable)

Construction of the individual development projects allowed under the land use designations of the proposed General Plan may result in risks associated with geology and soils. For example, there is an ongoing possibility that a fault located anywhere in the state (or region) could rupture and cause seismic ground shaking. Additionally, grading, excavation, removal of vegetation cover, and loading activities associated with construction activities could temporarily increase runoff, erosion, and

sedimentation. Other geologic risks such as liquefaction, landslide, lateral spreading, and soil expansion are also geologic risks that are present.

While some cumulative impacts will occur in the region as individual projects are constructed, the proposed General Plan policies and actions, as well as State and Federal regulations, will reduce the risk to people in the region. Considering the protection granted by local, State, and Federal agencies and their requirements for seismic design, as discussed in Chapter 3.6 (Geology and Soils), the overall cumulative impact would not be significant. As a result, the proposed General Plan's incremental contribution to cumulative geologic and soil impacts would be **less than cumulatively considerable**.

GREENHOUSE GASES, CLIMATE CHANGE, AND ENERGY

Impact 4.7: Cumulative impacts related to greenhouse gases, climate change, and energy (Considerable Contribution and Significant and Unavoidable)

Implementation of the General Plan would not directly result in the creation of GHG emissions. However, subsequent development allowed under the General Plan would result in new projects that would increase GHG emissions in the Planning Area.

There are a variety of ways in which a general plan could contribute to climate change and result in the generation of GHGs. Sprawling land use patterns that place residences far from employment and retail centers can result in increased vehicle miles traveled (VMT), which increase GHG generation. The conversion of forest lands and open space areas into urbanized uses removes vegetation and trees that have positive carbon sequestration value. Imbalances between local jobs and housing can result in increased commute times and increased VMT associated with longer travel distances between home and work.

Cumulative impacts are the collective impacts of one or more past, present, and future projects that, when combined, result in adverse changes to the environment. GHG emissions are cumulative by nature, given that they spread throughout the atmosphere on a global scale. In determining the significance of a project's contribution to anticipated adverse future conditions, a lead agency should generally undertake a two-step analysis. The first question is whether the combined effects from both the proposed project and other projects would be cumulatively significant. If the agency answers this inquiry in the affirmative, the second question is whether "the project's incremental effects are cumulatively considerable" and thus significant in and of themselves. The cumulative project list for this issue (climate change) comprises anthropogenic (i.e., human-made) GHG emissions sources across the globe and no project alone would reasonably be expected to contribute to a noticeable incremental change to the global climate. However, legislation and executive orders on the subject of climate change in California have established a statewide context and process for developing an enforceable statewide cap on GHG emissions. Given the nature of environmental consequences from GHGs and global climate change, CEQA requires that lead agencies consider evaluating the cumulative impacts of GHGs. Small contributions to this cumulative impact (from which significant effects are occurring and are expected to worsen over time) may be potentially considerable and, therefore, significant.

As future development projects are received and reviewed by the County in subsequent years, those projects will be reviewed for consistency with the General Plan and all relevant State-level programs and requirements. All future projects must implement the most current version of the Title 24 energy efficiency requirements, as required by State law. Consistency with the General Plan and other mandatory State-level programs would ensure that future project-level contributions to global climate change would be less than significant. Moreover, as identified in Section 3.7 (Greenhouse Gases, Climate Change, and Energy), buildout of the General Plan would not be expected to cause an inefficient, wasteful, or unnecessary use of energy resources nor conflict with or obstruct a state or local plan for renewable energy or energy efficiency.

In general, expanded and new energy infrastructure will be needed to serve growth contemplated in the General Plan. The environmental effect of providing the energy and gas services is associated with the physical impacts of providing new and expanded facilities. The specific impacts of providing new and expanded facilities cannot be determined at this time, as the General Plan does not propose or authorize development nor does it designate specific sites for new or expanded utilities facilities and infrastructure. However, the facilities would be primarily provided on sites with land use designations that allow such uses and the environmental impacts of constructing and operating the governmental facilities would likely be similar to those associated with new development, redevelopment, and infrastructure projects under the General Plan. These impacts are described in the relevant chapters (Chapters 3.1 through 3.16, and 4.0) of this Draft EIR. Any future development under the General Plan would be required to comply with regulations, policies, and standards included in the General Plan, and would be subject to CEQA review as appropriate.

Nevertheless, there is no guarantee that the General Plan alone would be sufficient to limit GHGs to the extent required by AB 32 and SB 375, and other federal and state regulations. Therefore, General Plan implementation is considered to have the potential to generate GHG emissions that could 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. This impact is considered a **cumulatively considerable** and significant and unavoidable impact.

HAZARDS AND HAZARDOUS MATERIALS

Impact 4.8: Cumulative impacts related to hazardous materials and human health risks (Less than Cumulatively Considerable)

Construction of the individual development projects allowed under the land use designations of the proposed General Plan may involve the transportation, use, and/or disposal of hazardous materials, which may involve the use of equipment that contains hazardous materials (e.g., solvents and fuels or diesel-fueled equipment), or the transportation of excavated soil and/or groundwater containing contaminants from areas that are identified as being contaminated. Furthermore, because of the regional nature of the General Plan, some future land uses will inevitably transport or use hazardous materials within ¼ mile of a school, or other sensitive receptors such as hospitals and residences.

New development would inevitably increase the use of some hazardous materials within the region, resulting in potential health and safety effects related to hazardous materials use. Any use of

hazardous materials must be managed in accordance with federal, State, and local regulations to minimize any risk.

Hazardous materials incidents, if any, are typically site-specific and involve accidental spills or inadvertent releases. Associated health and safety risks generally are limited to those individuals using the materials or to persons in the immediate vicinity of the materials. Hazard-related impacts tend to be site-specific and project-specific. While some cumulative impacts, such as those associated with increases in the use of hazardous materials in the county associated with additional development, will occur in the region as individual projects are constructed, the proposed General Plan policies and actions, as well as State and Federal regulations, will reduce the project's contribution to risks to people in the region. Considering the protection granted by local, State, and Federal agencies and their requirements for the use of hazardous materials in the region, as discussed in Chapter 3.8 (Hazards and Hazardous Materials), the overall cumulative impact for hazard impacts would not be significant. Therefore, this impact is considered **less than cumulatively considerable**.

HYDROLOGY AND WATER QUALITY

Impact 4.9: Cumulative impacts related to hydrology and water quality. (Less than Cumulatively Considerable)

Construction of the individual development projects allowed under the land use designations of the proposed General Plan has the potential to result in construction-related water quality impacts, impacts to groundwater recharge, and cause flooding, erosion, or siltation from the alteration of drainage patterns.

While some cumulative impacts will occur in the region as individual projects are constructed, the proposed General Plan policies and actions, as well as State and Federal regulations, will substantially reduce the impacts. Considering the protection granted by local, State, and Federal agencies and their permit and monitoring requirements, as discussed in Chapter 3.9 (Hydrology and Water Quality), and with implementation of the policies and actions included within the General Plan, the overall cumulative impact would not be significant. As a result, the General Plan's incremental contribution to cumulative hydrology impacts would be **less than cumulatively considerable**.

LAND USE, POPULATION, AND HOUSING

Impact 4.10: Cumulative impacts related to local land use, population, and housing (Less than Cumulatively Considerable)

Cumulative land use and planning impacts, such as the potential for conflicts with adjacent land uses and consistency with adopted plans and regulations, are typically site and project-specific. It may be determined in the project-specific design phase of a development project that an individual project may require removal of homes; however, these effects are not cumulatively considerable because there is adequate replacement housing available under the proposed General Plan.

The land uses allowed under the proposed General Plan provide opportunities for the majority of new growth to occur within unincorporated community areas or near incorporated cities, as well as new growth within the Planning Area in undeveloped areas designated for urban development, but would not create physical division within existing communities. New development and redevelopment projects would be reviewed for compatibility with the character of existing neighborhoods and provide connectivity between existing development and new development within the cumulative analysis area. The proposed General Plan does not include any new roadways, infrastructure, or other features that would divide existing communities. Moreover, with implementation of General Plan policies and actions intended to guide growth to appropriate areas and provide services necessary to accommodate growth, the land uses allowed under the proposed General Plan, the infrastructure anticipated to accommodate proposed land uses, and the goal and policy framework would not induce growth that would exceed adopted thresholds. Lastly, General Plan implementation would not displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere. Therefore, the proposed General Plan's incremental contribution to cumulative land use and population impacts would be **less than cumulatively considerable**.

MINERAL RESOURCES

Impact 4.11: Cumulative impacts related to mineral resources (Less than Cumulatively Considerable)

The primary mineral resources in Glenn County are sand, gravel, and natural gas. In 1997, the California Geological Survey assessed Glenn County mineral resources, with a focus on aggregate resources. Within Glenn County, 9 ARAs, including 41 subdivisions were identified as containing significant resources of concrete-grade aggregate. These areas contain an estimated minimum of 357 million tons of concrete-grade aggregate resources and a maximum of 1,031 million tons. Fourteen present production sites have an estimated 61 million tons of concrete-grade aggregate reserves, including both sand and gravel.

As noted in chapter 3.11 (Mineral Resources), the General Plan included policies and actions that support mineral resource conservation and extraction throughout the Planning Area. Specifically, General Plan Policy COS 7-2 call for the conservation of mineral resources identified by the State to be of regional or statewide significance for mineral resource extraction. Additionally The Glenn County General Plan and Land Use Map has been developed to focus development within the existing community areas and promote development to conserve resources throughout the region.

Therefore it was determined that implementation of the proposed project would not result in loss of a mineral resource. As a result, the General Plan's incremental contribution to cumulative mineral resource impacts would be **less than cumulatively considerable**.

NOISE

Impact 4.12: Cumulative impacts related to noise (Less than Cumulatively Considerable)

Chapter 3.12 (Noise) Table 3.12-11 shows the future noise levels and the increase in noise levels associated with traffic on the local roadway network under a 20-year circulation system for the proposed General Plan, versus existing conditions.

Buildout of the General Plan may contribute to transportation noises. As indicated by Table 3.12-11, the related traffic noise level increases with a circulation system buildout of the proposed 2040 General Plan are predicted to increase between 0.1 to 0.6 dB versus the existing (2019) conditions.

General Plan Policies N 1-1 through N 1-6, and Action N-1a, identified below, are intended to minimize exposure to excessive noise, including noise associated with traffic. Specifically, Policies N 1-1 through N 1-6 support noise-compatible land uses in the vicinity of traffic noise sources and require that new development and infrastructure projects be reviewed for consistency with the noise standards established in Tables N-1 and N-2. The proposed General Plan standards required under Policy N 1-3, for exposure to traffic noise meet or exceed the noise level standards of the adopted General Plan.

As described in Chapter 3.12 the noise increases associated with the proposed General Plan comply with the applicable tests of significance. Therefore, the proposed General Plan would have a **less than cumulatively considerable** contribution relative to the cumulative noise environment in the county.

PUBLIC SERVICES AND RECREATION

Impact 4.13: Cumulative impacts to public services and recreation (Less than Cumulatively Considerable)

Development accommodated under the General Plan would result in additional residents and businesses in the county, including new residential, industrial, office, and commercial uses as described in Chapter 2.0 (Project Description). Development and growth facilitated by the General Plan would result in increased demand for public services, including fire protection, law enforcement, schools, parks, libraries, and other public and governmental services. The General Plan includes policies and actions to ensure that public services are provided at acceptable levels and to ensure that development and growth does not outpace the provision of public services.

Cumulative growth that would occur within Glenn County and other areas within Glenn County over the life of the proposed General Plan will result in increased demand for public services, including fire protection, law enforcement, schools, parks, libraries, and other public and governmental services. As the demand for public services and recreation increases, there will likely be a need to address acceptable service ratios, response times, and other performance standards. New or

expanded service structures (e.g., offices, maintenance and administrative buildings, schools, parks, fire facilities, libraries, etc.) will be needed to provide for adequate staffing, equipment, and appropriate facilities to serve growth within the cumulative analysis area.

New facilities will be needed to serve growth contemplated in the General Plan. The environmental effect of providing the public services is associated with the physical impacts of providing new and expanded facilities. The specific impacts of providing new and expanded facilities cannot be determined at this time, as the General Plan does not propose or authorize development nor does it designate specific sites for new or expanded public facilities. However, the facilities would be primarily provided on sites with land use designations that allow such uses and the environmental impacts of constructing and operating the governmental facilities would likely be similar to those associated with new development, redevelopment, and infrastructure projects under the General Plan. These impacts are described in the relevant chapters (Chapters 3.1 through 3.16, and 4.0) of this Draft EIR. Any future development under the General Plan would be required to comply with regulations, policies, and standards included in the General Plan, and would be subject to CEQA review as appropriate.

The General Plan includes a range of policies and actions that would ensure that public services are provided in a timely fashion, are adequately funded, are coordinated between the County and appropriate service agency, and that new development funds its fair share of services. The General Plan includes policies to ensure that services keep pace with new development and that school, library, and governmental services are adequately planned and provided. Payment of applicable impact fees, and ongoing revenues that would come from property taxes, sales taxes, and other revenues generated by the future projects, would ensure that the County maintains acceptable service ratios. The proposed General Plan's incremental contribution to cumulative public services and recreation impacts would be **less than cumulatively considerable**.

TRANSPORTATION AND CIRCULATION

Impact 4.14: Cumulative impacts on the transportation network (Cumulatively Considerable and Significant and Unavoidable)

As described in Chapter 3.14 the Proposed General Plan would result in a similar or decreased VMT per capita when compared to the existing (baseline) condition, and an expected increase in total VMT. This can be concluded based on the general plan land use designations for new growth in areas near current development within community areas and around incorporated cities. The newly designated growth areas are similarly near central areas, close to several job centers, and located along existing transportation corridors. As growth occurs, total VMT will increase but per capita levels will decrease compared to existing conditions.

The proposed General Plan includes policies designed to reduce vehicle travel and VMT as detailed in Chapter 3.14. While policies and actions may result in less-than-significant VMT impacts when considered at an individual project level, they cannot be guaranteed and are not possible to fully quantify or mitigate at a countywide cumulative level as part of a programmatic General Plan. As a result, this is considered a **cumulatively considerable and significant and unavoidable** impact.

UTILITIES

Impact 4.15: Cumulative impacts related to utilities (Less than Cumulatively Considerable)

Water: Chapter 3.15 summarize annual projections of demands and supplies to meet those demands through 2045, as documented by in California Water Service 2020 Urban Water Management Plans, as well as other local water providers supplies and demands.. The proposed General Plan includes a range of policies and actions designed to ensure an adequate water supply for development and to minimize the potential adverse effects of increased water use. Given that projected water demands associated with General Plan buildout would not exceed the projected available water (including after taking into account future development within Glenn County, neighboring cities, and the broader region), and that the proposed General Plan includes a comprehensive set of goals, policies and actions to ensure an adequate and reliable source of clean potable water, impacts associated with water supplies are less than significant.

Additionally, future development in the Planning Area would be required to connect to existing water distribution infrastructure when available in the vicinity of each site, pay the applicable water system connection fees, and pay the applicable water usage rates. Additionally, water well development would be under permit of the County Environmental Health Department.

Future projects may be required to implement site specific and limited off-site improvements to the water distribution system in order to connect new project sites to the existing water infrastructure network as feasible. The specific impacts of providing new and expanded waster distribution infrastructure cannot be determined at this time, as the General Plan does not propose any specific development projects or include details on any future development projects. However, any future improvements to the existing water distribution infrastructure would be primarily provided on sites with land use designations that allow for urbanized land uses, and the environmental impacts of constructing and operating the new water distribution infrastructure would likely be similar to those associated with new development, redevelopment, and infrastructure projects under the proposed General Plan.

This Draft EIR addresses the potential impacts of development that may occur under the proposed General Plan, including residential, commercial, professional office, industrial, public facilities, and a range of other uses.

As development projects are proposed within the Planning Area each project will be reviewed for a variety of service requirements, conformance with local and State requirements and water availability. SB 610 and SB 221, require review of supplies and verify their availability before approving developments.

The County is expected to have adequate water supply to serve the buildout GPU land uses. Future development in the Planning Area would be required to connect to existing water distribution infrastructure in the vicinity of each site, pay the applicable water system connection fees, and pay the applicable water usage rates, or develop water wells in less developed portions of the county

consistent with the requirements of the County Code, and Environmental Health Department standards.

Future projects may be required to implement site specific and limited off-site improvements to the water distribution system in order to connect new project sites to the existing water infrastructure network. The specific impacts of providing new and expanded waster distribution infrastructure cannot be determined at this time, as the General Plan does not propose or authorize any specific development projects or include details on any future development projects. However, any future improvements to the existing water distribution infrastructure would be primarily provided on sites with land use designations that allow for urbanized land uses, and the environmental impacts of constructing and operating the new water distribution infrastructure would likely be similar to those associated with new development, redevelopment, and infrastructure projects under the proposed General Plan.

The County has ample water supply to account for buildout of the proposed General Plan, and will require all development projects to demonstrate that the infrastructure, public services, and utilities can accommodate the increased demand for services, and that service levels for existing users will not be degraded or impaired. As such, this is considered **less than cumulatively considerable**.

Wastewater: As describe in detail in Chapter 3.15 development allowed under the proposed General Plan would increase the existing treatment demand; however, the proposed General Plan includes a range of policies designed to ensure an adequate wastewater treatment capacity for development. As described above, the districts and sewer providers must also periodically review and update their Master Plans, and as growth continues to occur within the Planning Area, the districts, in coordination with the relevant Cities and County, will identify necessary system upgrades and capacity enhancements to meet growth, prior to the approval of new development.

Given that projected wastewater generation volumes associated with General Plan buildout would not be anticipated to exceed the projected wastewater generation volumes, this impact would be less than significant. The policies and actions listed below would further assist in ensuring that adequate wastewater treatment and conveyance infrastructure is available to serve new growth projected under the proposed General Plan.

Periodic review and update of the Sewer Master Plans will be required and as growth continues to occur within the Planning Area. It may be necessary to identify future necessary system upgrades and capacity enhancements to meet growth, prior to the approval of new development. Given that projected wastewater generation volumes associated with General Plan buildout are not expiated to exceed the projected wastewater treatment volumes, the proposed General Plan's incremental contribution to cumulative wastewater impacts would be **less than cumulatively considerable**.

Stormwater: Development under the proposed General Plan would result in limited increased areas of impervious surfaces throughout the Planning Area, resulting in the need for additional or expanded stormwater drainage, conveyance, and retention infrastructure. The infrastructure and facilities necessary to serve new growth would involve development of some facilities on-site within

new development projects, some facilities off-site on appropriately designated land, and may also involve improvements to existing facilities and disturbance of existing rights-of-way.

Stormwater drainage and conveyance facilities would be evaluated at the project-level in association with subsequent development projects. However, the facilities would be primarily provided on sites with land use designations that allow such uses and the environmental impacts of constructing and operating the facilities would likely be similar to those associated with new development, redevelopment, and infrastructure projects under the General Plan.

As future development and infrastructure projects are considered by the County, each project will be evaluated for conformance with the General Plan, County Code, and other applicable regulations. Subsequent development and infrastructure projects would also be analyzed for potential environmental impacts, consistent with the requirements of CEQA.

With the policies and actions listed in Section 3.15 (Utilities) would ensure that there is adequate stormwater drainage and flood control infrastructure to serve future development under the General Plan, and would ensure that future drainage and flood control infrastructure projects do not result in adverse environmental impacts. The proposed General Plan's incremental contribution to cumulative wastewater impacts would be **less than cumulatively considerable**.

Solid Waste: As described in Chapter 3.15, Future development of projects as contemplated under the proposed General Plan may increase the population within the Planning Area at buildout to approximately 17,089 persons. As described above, the Glenn County disposed of 23,232 tons of solid waste in 2018 achieving a disposal rate of 4.4 PPD per resident. Assuming these disposal rates remain constant throughout the life of the General Plan, the new growth under General Plan buildout would result in an increase of approximately 75,191.6 pounds per day of solid waste, which equals 87.6 tons per day or 31,972.5 tons of solid waste per year.

Glenn County owns and operates the 195+ acre Glenn County Landfill Site, located on County Road 33, west of Artois. It is a Class III landfill (a facility at which protection is provided to water quality from municipal, industrial and agricultural wastes) with a maximum permitted capacity of 2,400,000 cubic yards. This site receives agricultural waste, construction and demolition waste, dead animal, industrial, inert, mixed municipal waste, and tires.

The County's projected increase in solid waste generation associated with future buildout of the proposed General Plan is well within the permitted capacity of the new Glenn County Solid Waste Conversion Facility. The proposed General Plan's incremental contribution to cumulative solid waste impacts would be **less than cumulatively considerable**.

WILDFIRE

Impact 4.16: Cumulative impact related to wildfire (Less than Cumulatively Considerable)

Development would require the construction and installation of infrastructure, including roads water and sewer and power lines. Development of such infrastructure may increase wildfire risks in

the affected areas. Infrastructure required to serve development allowed under the General Plan would generally be located in and along established County roadways and would be located in areas that are already urbanized and are currently served by infrastructure. As such, implementation of the General Plan would not exacerbate wildfire risks.

Therefore, the proposed General Plan's incremental contribution to cumulative wildfire impacts would be **less than cumulatively considerable**.

4.2 GROWTH-INDUCING EFFECTS

INTRODUCTION

Section 15126.2(e) of the CEQA Guidelines requires that an EIR evaluate the growth-inducing impacts of a proposed action. A growth-inducing impact is defined by the CEQA Guidelines as:

The way in which a proposed project could foster economic or population growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment. Included in this are projects which would remove obstacles to population growth...It is not assumed that growth in an area is necessarily beneficial, detrimental, or of little significance to the environment.

Based on the CEQA Guidelines, growth inducement is any growth that exceeds planned growth of an area and results in new development that would not have taken place without implementation of the project. A project can have direct and/or indirect growth inducement potential. Direct growth inducement would result if a project, for example, involved construction of new housing. A project would have indirect growth inducement potential if it established substantial new permanent employment opportunities (e.g., commercial, industrial, or governmental enterprises) or if it would involve a construction effort with substantial short-term employment opportunities that would indirectly stimulate the need for additional housing and services to support the new employment demand (*Napa Citizens for Honest Government v. Napa County Board of Supervisors*). Similarly, a project would indirectly induce growth if it would remove an obstacle to additional growth and development, such as removing a constraint on a required public service. A project providing an increased water supply in an area where water service historically limited growth could be considered growth-inducing.

The CEQA Guidelines further explain that the environmental effects of induced growth are considered indirect impacts of the proposed action. These indirect impacts or secondary effects of growth may result in significant, adverse environmental impacts. Potential secondary effects of growth include increased demand on other community and public services and infrastructure, increased traffic and noise, and adverse environmental impacts such as degradation of air and water quality, degradation or loss of plant and animal habitat, and conversion of agricultural and open space land to developed uses.

Growth inducement may constitute an adverse impact if the growth is not consistent with or accommodated by the land use plans and growth management plans and policies for the area

4.0 OTHER CEQA-REQUIRED TOPICS

affected. Local land use plans provide for land use development patterns and growth policies that allow for the orderly expansion of urban development supported by adequate urban public services, such as water supply, roadway infrastructure, sewer service, and solid waste service.

The General Plan is a long-term plan intended to accommodate projected population, housing, and employment growth, including the appropriate balance among these factors with the necessary public services and infrastructure. The proposed General Plan would serve as a comprehensive, long-term plan for the physical development of Glenn County. Projected growth is described in Section 3.10 (Land Use and Population), and the environmental consequences related to the potential growth are fully assessed in each topical section. By definition, the proposed General Plan is intended to provide for and address future growth in the county.

Because the proposed General Plan provides a framework for development through its Land Use Map, land use designations, goals, policies, and actions, it would directly induce population and employment growth in the Planning Area by designating land for development that is more intense, in some instances, than current designations allow. The analysis of the indirect growth-inducing impacts for the proposed General Plan focuses on the following factors: inducement of unanticipated population growth; encouragement of economic growth that leads to jobs and housing growth; elimination of obstacles to population growth; and resulting service, facility, or infrastructure demands in excess of existing and planned growth.

The proposed General Plan accommodates future growth, including new businesses, expansion of existing businesses, and new residential uses. Infrastructure and services would need to accommodate future growth. The General Plan is oriented toward the economic growth of the county, with emphasis given to encouraging development of a broader array of local employment opportunities, and providing residential development as necessary to serve economic growth.

Given the historical and current population, housing, and employment trends, growth in the county, as well as the entire state, is inevitable. The primary factors that account for population growth are natural increase and net migration. The average annual birth rate for California is expected to be 20 births per 1,000 population. Additionally, California is expected to attract more than one third of the country's immigrants. Other factors that affect growth include the cost of housing, the location of jobs, the economy, the climate, and transportation. While these factors would likely result in growth in the county during the planning period of the proposed General Plan, growth will continue to occur based primarily on the demand of the housing market and demand for new commercial, industrial, and other non-residential uses. As future development occurs under the proposed General Plan, new roads, infrastructure, and services would be necessary to serve the development and this infrastructure would accommodate planned growth. However, growth under the proposed General Plan would remain within the general growth levels projected statewide and would not be anticipated to exceed any applicable growth projections or limitations that have been adopted to avoid an environmental effect. The proposed General Plan is intended to accommodate the County's fair share of statewide housing needs, based on regional numbers provided by the California Department of Housing and Community Development on a regular basis (every five to eight years).

The proposed General Plan includes policies and actions that minimize environmental impacts associated with growth, such as air quality, noise, traffic, water supply, and water quality. Additionally, this Draft EIR identifies General Plan policies and actions, where appropriate, that would serve to reduce or eliminate potentially significant impacts associated with specific environmental issues associated with growth. Chapters 3.1 through 3.16 and 4.0 provide a discussion of environmental effects associated with development allowed under the proposed General Plan.

With implementation of General Plan policies and actions intended to guide growth to appropriate areas and provide services necessary to accommodate growth, the land uses allowed under the proposed General Plan, the infrastructure anticipated to accommodate proposed land uses, and the goal and policy framework would not induce growth that would exceed adopted thresholds. Therefore, population and housing growth associated with the proposed General Plan would result a **less than significant** impact.

4.3 SIGNIFICANT IRREVERSIBLE EFFECTS

LEGAL CONSIDERATIONS

CEQA Section 15126.2(d) and Public Resources Code Sections 21100(b)(2) and 21100.1(a), requires that the EIR include a discussion of significant irreversible environmental changes which would be involved in the proposed action should it be implemented. Irreversible environmental effects are described as:

- The project would involve a large commitment of nonrenewable resources;
- The primary and secondary impacts of a project would generally commit future generations to similar uses (e.g., a highway provides access to previously remote area);
- The project involves uses in which irreversible damage could result from any potential environmental accidents associated with the project; or
- The phasing of the proposed consumption of resources is not justified (e.g., the project involves the wasteful use of energy).

Determining whether the proposed project would result in significant irreversible effects requires a determination of whether key resources would be degraded or destroyed such that there would be little possibility of restoring them. Irretrievable commitments of resources should be evaluated to assure that such current consumption is justified.

Consumption of Nonrenewable Resources

Consumption of nonrenewable resources refers to the loss of physical features within the natural environment, including the conversion of agricultural lands, loss of access to mining reserves, and nonrenewable energy use. The Planning Area has multiple nonrenewable resources, including biological resources, water resources, mineral, and energy resources.

One of the objectives of the proposed General Plan is to conserve natural resources within the Planning Area. Many of these policies and actions, aimed at preserving natural resources, are contained within the Conservation and Sustainability Element, and have been identified throughout this EIR. Additionally, the proposed General Plan directs most new development to infill areas, and areas surrounding existing urbanized areas. As a result, the proposed General Plan will minimize the potential for impacts to the nonrenewable resources in the Planning Area, including biological resources, water resources, and energy resources, to the greatest extent feasible. More detailed and focused discussions of potential impacts to these nonrenewable resources are contained throughout this Draft EIR.

Nonrenewable energy resources such as electricity, natural gas, propane, gasoline, and diesel would be consumed during the construction and operation of development projects contemplated under the General Plan buildout. The proposed General Plan includes a variety of policies that seek to conserve, protect, and enhance energy resources. These policies focus on energy efficiency in the design, materials, construction, and use of buildings, the use of alternative energy systems, and alternative transportation modes. As described in Chapter 3.7 (Greenhouse Gases, Climate Change

and Energy), the proposed General Plan would not result in any significant adverse impacts related to project energy requirements, energy use inefficiencies, and/or the energy intensiveness of materials by amount and fuel type for during General Plan buildout, including during construction, operations, maintenance, and/or removal.

Irretrievable Commitments/Irreversible Physical Changes

The implementation of the General Plan would not be expected to result in environmental accidents that have the potential to cause irreversible damage to the natural or human environment through environmental accidents. While activities anticipated to occur under the General Plan would result in the limited use, transport, storage, and disposal of hazardous materials, all activities would comply with applicable state local, and federal laws related to hazardous materials transport, use, and storage, which would significantly reduce the likelihood and severity of accidents that could result in irreversible environmental damage. Implementation of the proposed General Plan would result in a commitment of land uses designated for the foreseeable future. Land use and development consistent with the General Plan would result in irretrievable commitments by introducing development onto sites that are presently undeveloped. The conversion of undeveloped lands to urban uses would result in an irretrievable loss of undeveloped land, wildlife habitat, and open space. Additionally, development will physically change the environment in terms of aesthetics, air emission, noise, traffic, open space, and natural resources. These physical changes are irreversible after development occurs.

Therefore, the proposed General Plan would result in changes in land use within the Planning Area that would commit future generations to these uses.

Impact 4.17: Irreversible effects (Significant and Unavoidable)

In summary, the proposed General Plan includes an extensive policy framework that is designed to address land use and environmental issues to the greatest extent feasible, while allowing growth and economic prosperity for the County. However, even with the policies and actions that will serve to reduce potential significant impacts, the proposed General Plan will result in significant irreversible changes. This impact is considered a **significant and unavoidable** impact under CEQA.

4.4 SIGNIFICANT AND UNAVOIDABLE IMPACTS

CEQA Guidelines Section 15126.2(b) requires an EIR to discuss unavoidable significant environmental effects, including those that can be mitigated but not reduced to a level of insignificance. The following significant and unavoidable impacts of the General Plan are discussed in Chapter 3 and previously in this chapter (cumulative-level). Refer to those discussions for further details and analysis of the significant and unavoidable impacts identified below:

- **Impact 3.2-1:** General Plan implementation would not result in the conversion of farmlands, including Prime Farmland and Unique Farmland, to non-agricultural use (Significant and Unavoidable)
- **Impact 3.2-2:** General Plan implementation would not result in conflicts with existing zoning for agricultural use, or a Williamson Act contract (Significant and Unavoidable)
- **Impact 3.3-1:** General Plan implementation would not conflict with or obstruct implementation of the applicable air quality plan, or result in a cumulatively considerable net increase of criteria pollutants (Significant and Unavoidable)
- **Impact 3.7-1:** General Plan implementation has the potential to generate GHG emissions that could 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 (Significant and Unavoidable)
- **Impact 4.2:** Cumulative impact to agricultural lands and resources (Cumulatively Considerable and Significant and Unavoidable)
- **Impact 4.3:** Cumulative impact on the region's air quality (Cumulatively Considerable and Significant and Unavoidable)
- **Impact 4.7:** Cumulative impacts related to greenhouse gases, climate change, and energy (Considerable Contribution and Significant and Unavoidable)
- **Impact 4.17:** Irreversible Effects (Significant and Unavoidable)

5.1 CEQA REQUIREMENTS

CEQA requires that an EIR analyze a reasonable range of feasible alternatives that meet most or all of the project objectives while potentially reducing or avoiding one or more environmental effects of the project. The range of alternatives required in an EIR is governed by a “rule of reason” that requires an EIR to set forth only those alternatives necessary to permit a reasoned choice (CEQA Guidelines Section 15126.6[f]). Where a potential alternative was examined but not chosen as one of the range of alternatives, the CEQA Guidelines require that the EIR briefly discuss the reasons the alternative was dismissed.

Alternatives that are evaluated in the EIR must be potentially feasible alternatives. However, not all possible alternatives need to be analyzed. An EIR must “set forth only those alternatives necessary to permit a reasoned choice.” (CEQA Guidelines, Section 15126.6(f).) The CEQA Guidelines provide a definition for a “range of reasonable alternatives” and, thus limit the number and type of alternatives that need to be evaluated in an EIR. An EIR need not include any action alternatives inconsistent with the lead agency’s fundamental underlying purpose in proposing a project. (*In re Bay-Delta Programmatic Environmental Impact Report Coordinated Proceedings* (2008) 43 Cal.4th 1143, 1166.)

First and foremost, alternatives in an EIR must be potentially feasible. In the context of CEQA, “feasible” is defined as:

... capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, legal, social and technological factors. (CEQA Guidelines 15364)

5.2 ALTERNATIVES CONSIDERED IN THIS EIR

FACTORS GUIDING SELECTION OF ALTERNATIVES

A Notice of Preparation was circulated to the public to solicit recommendations for a reasonable range of alternatives to the proposed Project. Additionally, a public scoping meeting was held during the public review period to solicit recommendations for a reasonable range of alternatives to the proposed project. No specific alternatives were recommended by commenting agencies or the general public during the NOP public review and comment period.

The alternatives to the General Plan Update selected for analysis in the EIR were developed to minimize significant environmental impacts while fulfilling the basic objectives of the project, and address public and elected officials’ input with respect to potential land use and growth scenarios that may be appropriate for consideration as part of the General Plan Update. Significant impacts are summarized in Chapter 4.0, the executive summary, and described in greater detail in Sections 3.1 through 3.16 of this DEIR. As described in Chapter 2.0 (Project Description), the following objectives have been identified for the proposed project:

5.0 ALTERNATIVES

- Foster a strong sense of community that celebrates the County's unique identity, agricultural heritage, and rural way of life.
- Provide a high standard of living for citizens through local programs, high quality services, public safety, local amenities, and educational opportunities that are accessible to all residents.
- Improve the County's ability to be fiscally sustainable and proactively supportive of local businesses through the expansion of commercial activities, retention of existing successful commercial businesses, and redevelopment of underperforming commercial centers.
- Support and encourage the expansion of a variety of businesses that provide high quality employment and opportunities for economic advancement and resiliency, while enhancing the County's reputation as a prime location for business growth.
- Be an active steward of the County's vast natural resources in order to ensure that present and future generations have access to these resources for economic and recreational benefit.
- Address new requirements of State law.

SIGNIFICANT AND UNAVOIDABLE IMPACTS

The proposed General Plan Update would result in the following significant and unavoidable impacts, which are described in Sections 3.1 through 3.16 and Chapter 4.0:

- **Impact 3.2-1:** General Plan implementation would not result in the conversion of farmlands, including Prime Farmland and Unique Farmland, to non-agricultural use (Significant and Unavoidable)
- **Impact 3.2-2:** General Plan implementation would not result in conflicts with existing zoning for agricultural use, or a Williamson Act contract (Significant and Unavoidable)
- **Impact 3.3-1:** General Plan implementation would not conflict with or obstruct implementation of the applicable air quality plan, or result in a cumulatively considerable net increase of criteria pollutants (Significant and Unavoidable)
- **Impact 3.7-1:** General Plan implementation has the potential to generate GHG emissions that could 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 (Significant and Unavoidable)
- **Impact 4.2:** Cumulative impact to agricultural lands and resources (Cumulatively Considerable and Significant and Unavoidable)
- **Impact 4.3:** Cumulative impact on the region's air quality (Cumulatively Considerable and Significant and Unavoidable)
- **Impact 4.7:** Cumulative impacts related to greenhouse gases, climate change, and energy (Considerable Contribution and Significant and Unavoidable)
- **Impact 4.17:** Irreversible Effects (Significant and Unavoidable)

ALTERNATIVES TO THE GENERAL PLAN UPDATE

Three alternatives to the General Plan Update were considered based on the analysis performed to identify the environmental effects of the proposed project. Since the General Plan Update was prepared with the intent to be a self-mitigating document, alternatives focused on amending land uses and standards to potentially address impacts. The alternatives analyzed in this EIR include the following:

- **Alternative 1: No Project Alternative.** Under Alternative 1, the County would not adopt the General Plan Update. The existing General Plan would continue to be implemented and no changes to the General Plan, including the Land Use Map, Circulation Diagram, goals, policies, or actions would occur. Subsequent projects, such as amending the County Code (including the zoning map), would not occur. The Existing General Plan Land Use Map is shown on Figure 5.0-1.
- **Alternative 2: Modified Project Alternative.** Under Alternative 2, the County would adopt the updated General Plan policy document, but would retain the existing land use map. This alternative would result in the same growth as the existing General Plan, but would implement the updated goals, policies, and actions found in the General Plan Update. This Alternative would result in less residential and non-residential growth than the proposed Project. This alternative was developed to potentially reduce the severity of significant impacts related to agriculture, and irreversible impacts, and further reduce in less than significant impacts related to, biological resources, noise, public services, and utilities.
- **Alternative 3: Infill Development Agriculture Protection Alternative.** Under this alternative, the proposed Project would be developed in such a way as to protect lands currently identified as prime farmland and farmland of statewide importance, by reducing the overall footprint of the developable areas and focus development on infill opportunities and locations within existing unincorporated community SOI's and ULL's. For the purposed of this analysis it is assumed that future development buildout would generally exclude approximately 15 percent of the development footprint on lands designated as prime or farmlands of statewide importance that may currently be development with urban type uses. This Alternative would result in the least amounts of overall developable area, and would reduce overall development levels by approximately 15 percent when compared to the existing General Plan and Alternative 2.

A summary of the growth projections, including population growth, housing units, jobs, and the job/housing balance for the Project and each Alternative is shown in Table 5.0-1.

As shown in Table 5.0-1, projected buildout of the General Plan is estimated to result in 773 new housing units in Glenn County by 2040, and 531,250 additional square feet of job-generating, non-residential development. This growth would result in a population increase of approximately 2,172 persons and an increase in employment by 745 jobs. Development totals, which include projected development through 2040 and existing development, are shown in Table 5.0-1 below.

5.0 ALTERNATIVES

TABLE 5.0-1: GROWTH BY ALTERNATIVE

	Population	Dwelling Units	Non-Residential Square Feet	Jobs	Jobs per Housing Unit
Existing Conditions					
	14,917	5,810	2,951,366	4,204	0.724
New Growth Potential					
Alt 1 - Existing General Plan	1,629	580	398,438	559	0.964
Alt 2 Modified Project	1,629	580	398,438	559	0.964
Alt 3 AG Preservation	1,385	493	338,672	475	0.964
Proposed General Plan	2,172	773	531,250	745	0.964
Total Growth: Existing Plus New Growth Potential					
Existing General Plan	16,546	6,390	3,349,804	4,763	0.745
Alt 2 Modified Project	16,546	6,390	3,349,804	4,763	0.745
AG Preservation					
Proposed General Plan	17,089	6,583	3,482,616	4,949	0.752

SOURCES: GLENN COUNTY GIS DATASET, DE NOVO PLANNING GROUP 2022. Glenn County Assessor 2018; California Department of Finance 2020;; U.S. Census OntheMap 2019 employment estimates. Building Permit Reports – 2014-2021.

The primary difference between the proposed General Plan and Alternative 2 is the Land Use Maps associated with each of these alternatives while the primary difference between the proposed General Plan and Alternative 3 is the assumption of an infill development focus. The goals, policies, and actions contained in the proposed General Plan would also apply and be implemented under Alternatives 2 and 3. Therefore, changes to the Land Use Map and growth focus are the main variables that may increase or decrease the severity of one or more of the significant environmental impacts identified in this Draft EIR.

Throughout the preparation of the General Plan Update, the County and community expressed a desire and commitment to ensuring that the General Plan not only reflect the community's values and priorities, but also serve as a self-mitigating document and avoid significant environmental impacts to the greatest extent feasible. To further this goal of crafting a self-mitigating General Plan, the environmental analysis contained in this Draft EIR was completed concurrently with the development of the General Plan elements and Land Use Map in order to foster informed decision making regarding the Land Use Map and the General Plan goals, policies, and actions as they were being developed. As the policies and actions in the general plan were crafted, refined, and revised throughout the course of the General Plan Update, changes were made on a continuous basis in order to reduce potentially significant environmental impacts that were identified. The result of this approach and this process is a proposed General Plan that has reduced potentially significant impacts to the environment, while still meeting the project objectives.

ALTERNATIVE 1 - NO PROJECT

Under Alternative 1, the County would continue to implement the existing General Plan and no changes would be made to address updated General Plan Guidelines, or the requirements of State law. Since adoption of the existing General Plan, State legislation has been passed requiring the County to address new safety and circulation requirements in the General Plan and to further address topics such as greenhouse gas emissions. The General Plan goals, policies, and actions, as well as the Land Use Map, would not be updated to address the vision and concerns of the County's residents, property owners, decision-makers, and other stakeholders that actively participated in the visioning and goal and policy development process.

Alternative 1 would result in the continuation of existing conditions and development levels. New growth would be allowed as envisioned under the existing General Plan, with land uses required to be consistent with the existing General Plan Land Use Map. Table 5.0-2 shows the acreages of each land use designation for the existing General Plan Land Use Map.

5.0 ALTERNATIVES

TABLE 5.0-2: ALTERNATIVE 1 (EXISTING GENERAL PLAN LAND USE DESIGNATIONS)

<i>GENERAL PLAN LAND USE DESIGNATION</i>	<i>TOTAL ACRES</i>
Agricultural/Residential	512.38
Business Park	171.46
Community Commercial	71.46
Foothill Agriculture/Forestry	290,610.86
General Agriculture	14,266.01
Highway and Visitor Service Commercial	717.08
Industrial	1,611.88
Intensive Agriculture	304,641.08
Local Commercial	56.09
Multiple Family Residential	85.13
Public Facilities	699.78
Recreation	213,134.14
Rural Residential	4,624.33
Service Commercial	613.65
Single Family Residential	637.21
Suburban Residential	1,887.08
Grand Total	834,339.62

SOURCE: DE NOVO PLANNING GROUP, 2022

Alternative 1 would provide for reduced acres of residential land uses when compared to the proposed General Plan Land Use Map and would not include new land uses such as mixed-uses and Ag Transition included in the proposed General Plan's land use map (See Chapter 2.0 Project Description).

As shown in Table 5.0-1, Alternative 1 would result in increased housing and job growth within the county when compared to existing conditions, but less overall growth than the proposed Project.

Under Alternative 1, there would be an increase over existing conditions in residential growth (approximately 580 dwelling units) and jobs (approximately 559 jobs) within the Planning Area through 2040. Under cumulative conditions, development in Planning Area combined under Alternative 1 would result in a population of 16,546 and 4,763 jobs. Under Alternative 1, the existing General Plan policy framework would still be in effect, which would constitute a status quo approach to land use regulation in the county. The Proposed Land Use Map, along with the policy framework proposed by the General Plan Update, encourages and aims to achieve a community with a balanced land use pattern that meets the County's long-term housing, employment, and resource needs. The proposed General Plan was prepared in conformance with State laws and regulations associated with the preparation of general plans, including requirements for environmental protection.

Alternative 1 would not include updated policies, particularly those related to additional housing opportunities, greenhouse gases, community health, and mobility for all roadway users, as required by State law. This alternative would not include various policies proposed in the General

Plan update to ensure protection of environmental resources, both at a project level and under cumulative conditions, consistent with the objectives of CEQA.

Alternative 1 fails to meet several of the basic General Plan objectives, including: Establishing a greater connection between the General Plan and current planning issues; and addressing new requirements of State law.

Therefore, Alternative 1 (No Project) is rejected from further consideration as a CEQA alternative, as it fails to meet several of the Project objectives. However, for reference, the environmental effects associated with Alternative 1 are discussed and summarized in Table 5.0-3 to provide a general comparison between the adopted General Plan (Alternative 1 – No Project), the proposed Project, and Alternatives 2 and 3.

ALTERNATIVE 2 – MODIFIED PROJECT ALTERNATIVE

Under Alternative 2, the County would adopt the updated General Plan policy document, including the revised goals, policies, and actions; however, the County would retain the existing land use map. Alternative 2 would result in less residential and nonresidential growth than the proposed General Plan, but it would result in the same growth as Alternative 1. Land use designations are summarized in Table 5.0-2.

The goals, policies, and actions of the General Plan Update would apply to subsequent development, planning, and infrastructure projects under this alternative.

As shown previously in Table 5.0-1, Alternative 2 would result in fewer housing units and fewer residents when compared to the proposed General Plan Land Use Map. Employment opportunities would also be slightly decreased under this alternative.

ALTERNATIVE 3 – INFILL DEVELOPMENT - AGRICULTURE PROTECTION ALTERNATIVE

Alternative 3 – Infill Development - Agriculture Protection Alternative provides jobs-creating and residential development land uses focused within infill development locations that are generally focused within current SOI's, and ULL's. Under this alternative, the proposed Project would be developed in such a way to protect lands currently identified as prime farmland and farmland of statewide importance, by reducing the overall footprint of the developable areas and focus on infill development opportunities and locations within existing community SOI's and ULL's. For the purposed of this analysis it is assumed that future development buildout would generally exclude approximately 15 percent of the development footprint on lands designated as prime or farmlands of statewide importance that may currently be development with urban type uses. This Alternative would result in the least amounts of overall developable area, and would reduce overall development levels by approximately 15 percent when compared to the existing General Plan and Alternative 2. Implementation of this alternative would require implementation of planning mechanisms such as an Ag-transition/preservation overlay to be included on properties surrounding community areas that currently included designated land uses that allow for

additional development, while also being located on lands identified as prime farmland, or farmlands of statewide importance.

5.3 ENVIRONMENTAL ANALYSIS

The alternatives analysis provides a summary of the relative impact level of significance associated with each alternative for each of the environmental issue areas analyzed in this EIR. Following the analysis of each alternative, Table 5.0-3 summarizes the comparative effects of each alternative.

Aesthetics

As described in Chapter 3.1 (Aesthetics and Visual Resources) impacts related to Aesthetics were found to be less than significant. Project Alternatives 1 and 2 would result in similar development patterns when compared to the Proposed Project; however, as noted above, Alternative 3 would result in the least amount of dwelling units increased agricultural land conservation. The reduced development potential under Alternative 3 as compared to the Proposed General Plan and Alternatives 1 and 2 would likely result in decreased building intensities and decreased densities in the Planning Areas. Glenn County has prepared the proposed General Plan to include numerous policies and actions related to community design to maintain and enhance the Planning Area's appearance and function. Specifically, the policies and actions are intended to protect and preserve visual resources, including ensuring appropriate transitions between land uses to preserve the community's harmonious character within the Planning Area.

Maximum densities and building intensities under Alternative 1 and 2 would be generally the same as the Proposed Project, and aesthetic impacts would generally be the same under these alternatives. Visual impacts would be slightly reduced under Alternative 3 when compared to the Proposed General Plan. Additionally, Alternative 2 includes adoption of the updated policy document, which includes numerous policies and actions to preserve and protect resources with visual value. Therefore, Alternative 2 would be superior to the No Project Alternative (Alternative 1).

Agriculture and Forest Resources

As described in Impact 3.2-1 of Chapter 3.2, impacts related to Agricultural and Forest Resources were found to be significant. There are agricultural lands identified by the CA Department of Conservation's Farmland Mapping and Monitoring Program within the Planning Area. Furthermore, there are lands within the Planning Area that are currently under a Williamson Act contract. Additionally, there are lands within the western portion of the Planning Area that include forest lands or timber lands and resources.

This impact would remain significant under all of the Alternatives. All Project Alternatives would result in general plan land use designations that would result in development patterns that impact agricultural resources. However, the reduced footprint of development and its impact to agricultural resources under Alternative 3 would be reduced when compared to all other alternatives. The impact level under all other alternative scenarios would remain roughly similar, however the additional areas designated for development under the Proposed General Plan

would be greater than under the existing General Plan's Land Use Map. Therefore Alternatives 1 and 2 would have slightly reduced impacts to agricultural resources when compared to the proposed Project.

Air Quality

As described in Chapter 3.3 (Air Quality) Impact 3.3-1, the proposed General Plan implementation could result in significant impacts to air quality.

As further described in Chapter 3.3, policies and actions included in the proposed General Plan would further the fundamental goals of reducing emissions of criteria pollutants associated with reducing building energy usage. The General Plan policies and actions that would work to further criteria pollutant emissions reductions, including reviewing projects for conformance with applicable air quality plans and regulations, reducing energy demands, and implementing methods to reduce vehicle miles traveled. However, even with implementation of the General Plan policies and actions that would reduce criteria pollutant emissions, the proposed General Plan would increase countywide VMT.

Under Alternative 2, the Planning Area would be developed with the existing General Plan Land Use Map, but would be required to adhere to the same policy guidance and local, state, and regional air quality measures as the Proposed General Plan. Buildout of the Existing General Plan and Alternative 2 would result in approximately fewer housing units, fewer residents, and fewer jobs within the Planning Area when compared to the proposed General Plan Land Use Map. Additionally Alternative 3 would result in the least overall development footprint and would result in the most infill development further reducing overall VMT. A decrease in total residential unit count, population, and jobs may also decrease the total air quality emissions and overall VMT. As such, the air quality impact is increased slightly under the Proposed General Plan when compared to all other alternatives. However, the Proposed General Plan's updated policy document, includes a range of goals and policies that would reduce air quality and toxic air contaminant emissions. As such, the air quality impacts may increase slightly under Alternative 1 and decrease slightly under Alternative 2 when compared to the proposed General Plan. Moreover, when compared to the proposed Project, Alternative 3 impacts would be reduced when compared to all other Alternatives.

Biological Resources

There are various biological resources, including habitat, that occurs throughout the region. As described in Chapter 3.4 (Biological Resources) General Plan implementation would result in less than significant impacts to biological resources. Approval of the General Plan would not directly approve or entitle any development or infrastructure projects. However, implementation of the General Plan and existing Land Use Map would allow and facilitate future development throughout the County, which could result in adverse impacts to special-status plant and wildlife species, as well as sensitive natural habitat or wildlife movement corridors. Subsequent development projects will be required to comply with the General Plan and adopted Federal, State, and local regulations for the protection of special status plants and animals, including

habitat. The County has prepared the proposed General Plan to include numerous policies and actions intended to protect special status plants and animals, including habitat, from adverse effects associated with future development and improvement projects.

The proposed Project and Alternatives 1 and 2 would result in similar development patterns, while Alternative 3 would result in the most land retained for agricultural uses which may provide additional habitat opportunities within the Planning Area. The proposed General Plan and Alternatives 2 and 3 would also include updated biological policies and actions aimed at protecting biological resources (as described in detail in Chapter 3.4). Therefore, impacts to biological resources under Alternative 2 would be slightly reduced when compared to the proposed General Plan and Alternative 3 would be superior to all other alternatives. Additionally, because Alternative 2 would update the biological resource policies consistent with the Proposed General Plan, impacts to biological resources would be slightly reduced when compared to the No Project Alternative, which does not include an updated policy document.

Cultural and Tribal Cultural Resources

As described in Chapter 3.5 (Cultural and Tribal Cultural Resources) General Plan implementation would result in less than significant impacts to cultural and tribal cultural resources.

The proposed Project and Alternatives 1 and 2 would result in similar development patterns and a similar development footprint. Alternative 3 would include additional preservation of agricultural lands within the county.

Because Alternatives 2 and 3 would update cultural resource policies to include new policies and actions related to agency coordination, consultation, and monitoring consistent with the proposed General Plan Policy Document, impacts to cultural resources would be slightly reduced when compared to the No Project Alternative which does not include additional and updated policies related to cultural resources. Alternative 3 would result in the potential for the fewest impacts as the development footprint would be reduced. The impact under all other scenarios (the proposed General Plan, and Alternatives 2 a) would remain the same.

Greenhouse Gas Emissions and Energy

As described in Chapter 3.7 (Greenhouse Gas Emissions and Energy), the proposed General Plan could result in significant impacts to Greenhouse Gases, Climate Change, and Energy.

As further described in Chapter 3.7, even with implementation of the General Plan policies and actions that would reduce emissions, the proposed General Plan would increase countywide VMT.

Under Alternative 2, the Planning Area would be developed with the existing General Plan Land Use Map, but would be required to adhere to the same policy guidance and local, state, and regional air quality measures as the Proposed General Plan. Buildout of the Existing General Plan and Alternative 2 would result in fewer housing units, fewer residents, and fewer jobs within the Planning Area when compared to the proposed General Plan Land Use Map. Additionally Alternative 3 would result in the least overall levels of development and would result in the most infill development. The decrease in total residential unit count, population, and jobs may decrease

the total air quality emissions and overall VMT. As such, the air quality impact is increased slightly under the Proposed General Plan when compared to all other alternatives. However, the Proposed General Plan's updated policy document, includes a range of goals and policies that would reduce air quality and toxic air contaminant emissions. As such, the air quality impacts may increase slightly under Alternative 1 and decrease slightly under Alternative 2 when compared to the proposed General Plan. Moreover, when compared to the proposed Project, Alternative 3 impacts would be reduced when compared to all other Alternatives.

As stated in Chapter 3.7, the proposed General Plan includes a range of goals and policies that would reduce GHG emissions associated with future development and improvement projects. Under Alternative 2, the Planning Area would be developed with the existing General Plan Land Use Map, but would be required to adhere to the same policy guidance and local, state, and regional greenhouse gas measures as the Proposed General Plan. Buildout of Alternatives 1 and 2 would result in fewer housing units, residents, and jobs within the county when compared to the proposed General Plan Land Use Map, while Alternative 3 would result in the least overall levels of development. The decrease in total residential unit count and population may decrease the total greenhouse gas emissions and energy use. As such, the greenhouse gas emissions impact is increased slightly under the proposed General Plan when compared to Alternatives 2 and 3. Moreover, when compared to Alternative 1 (No Project), the Proposed General Plan, Alternative 2 and Alternative 3 all include a range of goals and policies that would reduce energy use and emissions. Therefore, when compared to Alternative 1 (No Project), Alternatives 2 and 3 and the proposed General Plan would be slightly superior. Alternative 3 would be superior to all alternatives as this alternative places more emphasis on infill development that presents substantially more opportunities for trip internalization and increased opportunities for alternative transit and shortened trip lengths.

Geology

As described in Chapter 3.6 (Geology), the proposed General Plan would result in less than significant impacts to Geology and Soils. All alternatives would result in similar development patterns. The proposed General Plan and Alternatives 2 and 3 would also include updated policies related to geologic hazards, including requirements for project reviews and standards for construction and building practices (as described in detail in Chapter 3.6).

All future projects within the Planning Area will be required to comply with state laws including the preparation of stormwater plans, and compliance with the provisions of the California Building Standards Code (CBSC), which requires development projects to perform geotechnical investigations in accordance with State law, engineer improvements to address potential seismic and ground failure issues, and use earthquake-resistant construction techniques to address potential earthquake loads when constructing buildings and improvements. However, impacts related to Geology and Soils would generally similar the same under all alternatives, although the reduced development footprint under Alternative 3 may slightly reduce these impacts. Additionally, the updated policy document provides for additional policies and action related to geologic hazards and safety when compared to the existing General Plan, therefore the proposed

General Plan and Alternatives 2 and 3 would be considered to be slightly superior to the Alternative 1.

Hazards and Hazardous Materials

As described in Chapter 3.8 (Hazards and Hazardous Materials), all impacts related to hazards and hazardous materials were found to be less than significant. The proposed General Plan and Alternative 2 would include updated policies and actions aimed at protecting the public from hazardous materials. These policies and actions in the General Plan would ensure that potential hazards are identified on a project site, that development is located in areas where potential exposure to hazards and hazardous materials can be mitigated to an acceptable level, and that business operations comply with Federal and State regulations regarding the use, transport, storage, and disposal of hazardous materials. The proposed General Plan also includes policies and actions to ensure that the County has adequate emergency response plans and measures to respond in the event of an accidental release of a hazardous substance. (as described in detail in Chapter 3.8). Additionally, under all Project Alternatives no development intensities are identified in areas of high wildland fire risk.

All Project Alternatives would result in additional developed uses including commercial, industrial, residential, and mixed-use and public facility development. The impacts under all scenarios would remain similar, however, impacts to hazards and hazardous materials would be slightly reduced under the Proposed Project, and Alternatives 2 and 3 when compared to Alternative 3. Because Alternative 1 as this alternative does not include the adoption of the updated General Plan policy document which included additional policies and actions related to hazardous materials safety and review requirements, and emergency response.

Hydrology and Water Quality

As described in Chapter 3.9 (Hydrology and Water Quality), under all impact areas, implementation of the proposed General Plan would result in less than significant impacts related to Hydrology and Water Quality.

All of the alternatives generally would allow development to occur in a manner similar to the proposed General Plan, where flood control and water quality protection measures are well established and enforced. This variation in intensity and land use designation changes would not substantially alter impacts from or to flooding, water quality, or on groundwater supplies because existing federal, State, and local regulations would apply to guard against flood hazards, water quality contamination, or impact on groundwater supplies. Impact for each alternative, like the proposed project, would be less than significant.

Alternative 2 and Alternative 1 (No Project) would result in development of the existing General Plan Land Use Map, which results in the least number of housing units and non-residential square feet when compared to the proposed General Plan and Alternative 3. Compared to the proposed General Plan, the potential water quality impacts related to construction and operation would be similar. As described in Chapter 3.9, General Plan implementation would not result in construction, or long-term impacts to surface water quality from urban stormwater runoff. All

alternatives would also be required to submit a SWPPP with BMPs to the RWQCB and comply with all storm water sewer system (MS4) requirements. It would be expected that impacts related to water quality would be similar under Alternatives 2 and Alternative 3 as compared to the Proposed General Plan. The implementation of the General Plan policies and actions which includes policies aimed to enhance stormwater quality and infiltration as well as actions to review development projects to identify potential stormwater and drainage impacts and require development to include measures to ensure off-site runoff is not increased as a beyond pre-development levels would not be updated and included under Alternative 1 as this alternative does not include an update to the General Plan Policy Document to include updated policies related to permeable surfaces onsite detention, and infiltration. Therefore, this impact under the No-Project Alternative may be slightly increased when compared to all other alternatives. Additionally, Because Alternative 3 would result in the least land disturbance and the most permeable lands Alternative 3 would be superior to all other alternatives.

Land Use Planning and Population/Housing

The proposed General Plan is a long-range land use plan. As described in Chapter 3.10 (Land Use, Population, and Housing) all impacts related to land use, population, and housing were found to be less than significant under the Proposed General Plan. As described previously, the proposed General Plan and Alternatives 2 and 3 would include adoption of the updated policy document consistent with the Proposed General Plan. Therefore, Alternatives 2 and 3 would also result in the same impact level as the proposed General Plan. Additionally, the amount and typology of allowable development under the Proposed General Plan, has been crafted to help assist the County to meet the County's Regional Housing Needs Allocation (RHNA) and future housing needs, and comply with State law. Because the No Project Alternative retains the existing General Plan Land Use Map, and policy document it would result in less consistency with pertinent state and regional plans relative to the proposed General Plan and Alternative 3 in terms of the Plan's ability to meet housing needs. All alternatives would provide greater consistency with applicable state and regional plans than the No Project Alternative, due to the proposed Project and Alternatives 2 and 3 adopting the updated General Plan policy document.

Mineral Resources

As described in Chapter 3.11, the proposed General Plan would result in less than significant impacts relating mineral resources. All of the alternatives, like the Proposed General Plan, accommodate development generally in the same areas, and these areas are, for the most part, are either already urbanized or are planned for the same development. Given that mineral resources would not be impacted by the proposed Project, impacts associated with each of the alternatives would be similar under all alternatives and all would remain less than significant. However, It should be noted that Alternative 3 may result in slightly reduced impacts when compared to all other alternatives as this alternative results in the least amounts of overall land committed to developed uses.

Noise

As described in Chapter 3.12, and 4.0 the proposed General Plan would result in less than significant noise impacts. The proposed General Plan and Alternatives 2 and 3 include General Plan Policies intended to minimize exposure to excessive noise, including noise associated with increased traffic and stationary sources. Additional policies would ensure that new development mitigates potential noise impacts to the greatest extent feasible through incorporating the noise control treatments necessary to achieve acceptable noise levels and sets criteria for evaluating future increases in traffic noise levels.

Alternatives 2 would also result in fewer residential units, less non-residential square feet and fewer jobs within the county. These reductions in jobs and housing units would slightly reduce traffic and traffic related noise. As such, noise impacts would be slightly reduced under Alternative 2 when compared to all other alternatives.

Public Services and Recreation

As described in Chapter 3.13, the proposed General Plan would result in less than significant impacts relating to public services and recreation. New development would place increased demands on public services such as law enforcement, fire, schools, parks, libraries, and other governmental services. The proposed General Plan includes policies and actions that require payment of impact fees to the County and other public agencies to ensure that additional development allowed does not have adverse impacts on these services and agencies.

Alternatives 2 and 3 would adopt the updated General Plan policy document, but Alternative 2 would retain the existing General Plan Land Use Map. Under Alternative 2 and the No Project Alternative, the development area and development types would remain similar, however, there would be fewer, dwelling units, and reduced population when compared to the Propose General Plan, and Alternative 3 would include the least amounts of overall development and thus, impacts to public services (the demand for police, fire and other public services) would be slightly reduced. Overall, Alternative 2 would have a slightly reduced impact to public services when compared to the proposed Project and Alternative 3, and a reduced impact when compared to Alternative 1 as Alternative 1 would not include adoption of the updated General Plan policy document.

Transportation

As described in Chapter 3.14 (Transportation and Circulation), the proposed General Plan would result in a less than significant impact to the circulation network.

As described in Section 3.14 (Transportation and Circulation), the overall VMT may increase but as much of the development is focused near a community areas the per capita VMT is expected to decrease under the proposed General Plan.

Alternative 2 and Alternative 1 (No Project) would result in development of the existing General Plan Land Use Map; therefore, the VMT per capita would be expected to increase slightly when compared to the proposed Project. However, under Alternative 2, the updated policy document would be adopted and future developments would be required to adhere to the same policy

guidance and local, state, and regional air quality measures as the Proposed General Plan and Alternative 3. Therefore, when compared to Alternative 1, Alternative 2 would slightly reduce impacts to transportation and circulation. While the proposed General Plan would result in a slightly higher overall VMT the plan would reduce per capita VMT when compared to all Alternatives as it would place the most people near existing and future service areas. The infill development land use patterns under Alternative 3, and the proposed General Plan's focus on development areas community areas would further increase infill residential and employment generating uses and would result in a reduction VMT through opportunities for trip internalization and increased opportunities for trip length reductions due to more compact development approach as well as the updated policy document that supports VMT reduction strategies. Therefore, the transportation impacts related to VMT are slight reduced under The Proposed General Plan and Alternatives 3, and 1 would be considered inferior when compared to all other alternatives.

Utilities and Service Systems

As described in Chapter 3.15, the proposed General Plan would result in less than significant impacts relating Utilities.

New development would place increased demands on utilities. Under Alternative 2, the Planning Area would be developed with the same development patterns and uses as the existing General Plan (Alternative 1). Alternative 3 would result in the least amount of new residential and non-residential development and the smallest increase in population and jobs compared to the proposed General Plan (and Alternatives 1 and 2). The quantity of infrastructure installed would be may be slightly reduced, under Alternative 3 as this alternatives would require a smaller development footprint, but the demand for utility services, including wastewater and solid waste services would be would be substantially similar to that required under the Proposed General Plan.

Therefore, demand for utilities would be slightly less under Alternative 3 when compared to the proposed General Plan and Alternative 1 and 2. Additionally the reduced development anticipated under Alternatives 1 and 2 may also reduce the need to expanded utility services when compared to the proposed General Plan. The updated policy document include policies and actions to support adequate service levels throughout the county (as described in Chapter 3.15). Therefore Alternative 2 would be slightly superior to the No Project Alternatives due to the updated policy guidance related to public services.

Wildfire

As described in Chapter 3.16 (Wildfire), the proposed General Plan would result in less than significant impacts relating to all Wildfire impacts. All alternatives would result in similar development patterns and a similar development footprints. Additionally, it should be noted that no land use changes were identified or considered that would place additional people or structures within a fire threat area. The impact under all other scenarios would remain the same.

Irreversible Effects

The proposed Project would have a significant and unavoidable impact associated with irreversible environmental effects as described under Impact 4.17. Implementation of the proposed General Plan would result in a commitment of land uses designated for the foreseeable future. Land use and development consistent with the General Plan would result in irretrievable commitments by introducing development onto sites that are presently undeveloped. Additionally, development will physically change the environment in terms of air emission, noise, traffic, and natural resources. These physical changes are irreversible after development occurs. Therefore, the proposed General Plan would result in changes in land use within the Planning Area that would commit future generations to these uses.

During the planning horizon, development under Alternatives 1, 2, and 3 would be reduced in comparison to the proposed General Plan. Under cumulative conditions, Alternatives 1 and 2 would result in less residential and less non-residential floor area (see Table 5.0-1). All Alternatives would use nonrenewable resources, including metals, stone, and other materials related to construction, and result in on-going demand for fossil fuels and other resources associated with energy production at levels less than the proposed Project. The associated irretrievable commitment of nonrenewable resources and permanent conversion of other undeveloped lands that under all alternatives would remain a significant impact. Alternative 3 may have slightly reduced impact in comparison to the proposed General Plan and all other alternatives due to the due to reduced development footprint. Alternative 1 would not include an updated policy document that included additional policies and actions related to the conservation of resources and sustainable development patterns and therefore, would be considered inferior to all other alternatives.

ENVIRONMENTALLY SUPERIOR ALTERNATIVE

CEQA requires that an environmentally superior alternative be identified among the alternatives that are analyzed in the EIR. If the No Project Alternative is the environmentally superior alternative, an EIR must also identify an environmentally superior alternative among the other alternatives (CEQA Guidelines Section 15126.6(e)(2)). The environmentally superior alternative is that alternative with the least adverse environmental impacts when compared to the proposed General Plan.

A comparative analysis of the proposed General Plan and each of the Project alternatives is provided in Table 5.0-3 below. The table includes a numerical scoring system, which assigns a score of 1 to 5 to each of the alternatives with respect to how each alternative generally compares to the proposed project in terms of the severity of the environmental topics addressed in this EIR. A score of “3” indicates that the alternative would have the same level of impact when compared to the proposed project. A score of “1” indicates that the alternative would have a better (or reduced) impact when compared to the proposed project. A Score of “2” indicates that the alternative would have a slightly better (or slightly reduced) impact when compared to the proposed project. A score of “4” indicates that the alternative would have a slightly worse (or slightly increased) impact when compared to the proposed project. A score of “5” indicates that

the alternative would have a worse (or increased) impact when compared to the proposed project. The project alternative with the lowest total score is considered the environmentally superior alternative.

As shown in Table 5.0-3, Alternative 3 is the environmentally superior alternative, as it was developed and refined to reduce as many environmental effects as possible. All of the alternatives fail to reduce any significant and unavoidable impacts to a less than significant level however Alternative 3 would reduce impacts to agricultural lands and resources the greatest extent. Throughout the preparation of the General Plan Update, the Board of Supervisors, Planning Commission, Planning Staff, and community all expressed a desire and commitment to ensuring that the General Plan not only reflect the community's values and priorities, but also serve as a self-mitigating document and avoid significant environmental impacts to the greatest extent feasible. To that end, the proposed General Plan includes the fully range of feasible mitigation and minimization policies and actions available to reduce potential impacts to the greatest extent possible.

5.0 ALTERNATIVES

TABLE 5.0-3: COMPARISON OF ALTERNATIVES TO THE PROPOSED PROJECT

<i>ENVIRONMENTAL ISSUE</i>	<i>PROPOSED PROJECT</i>	<i>ALTERNATIVE 1 (NO PROJECT)</i>	<i>ALTERNATIVE 2 (MODIFIED)</i>	<i>ALTERNATIVE 3 (AGRICULTURE PROTECTION)</i>
Aesthetics	3 – Same	4 – Slightly Worse	3 – Same	2 – Slightly Better
Agricultural Resources	3 – Same	2 – Slightly Better	2 – Slightly Better	1 – Better
Air Quality	3 – Same	4 – Slightly Worse	3 – Same	2 – Slightly Better
Biological Resources	3 – Same	4 – Slightly Worse	2 – Slightly Better	1 – Better
Cultural Resources	3 – Same	4 – Slightly Worse	3 – Same	2 – Slightly Better
Greenhouse Gases, Climate Change, and Energy	3 – Same	4 – Slightly Worse	3 – Same	2 – Slightly Better
Geology and Soils	3 – Same	4 – Slightly Worse	3 – Same	2 – Slightly Better
Hazards and Hazardous Materials	3 – Same	4 – Slightly Worse	3 – Same	3 – Same
Hydrology and Water Quality	3 – Same	4 – Slightly Worse	3 – Same	2 – Slightly Better
Land Use and Population	3 – Same	4 – Slightly Worse	3 – Same	3 – Same
Noise	3 – Same	3 – Same	2 – Slightly Better	3 – Same
Public Services and Recreation	3 – Same	3 – Same	2 – Slightly Better	3 – Same
Transportation and Circulation	3 – Same	4 – Slightly Worse	4 – Slightly Worse	3 – Same
Utilities	3 – Same	3 – Same	2 – Slightly Better	2 – Slightly Better
Wildfire	3 – Same	3 – Same	3 – Same	3 – Same
Irreversible Effects	3 – Same	4 – Slightly Worse	3 – Same	2 – Slightly Better
SUMMARY	48	58	44	36

Overall, Alternative 3 is the environmentally superior alternative as it is the most effective in terms of overall reductions of impacts compared to the proposed General Plan and all other alternatives. As such, Alternative 3 is the environmentally superior alternative for the purposes of this EIR analysis.

SATISFACTION OF PROJECT OBJECTIVES

Alternative 1

As described previously Alternative 1 failed to meet the most basic Project Objectives including addressing current planning issues and new requirements of State law.

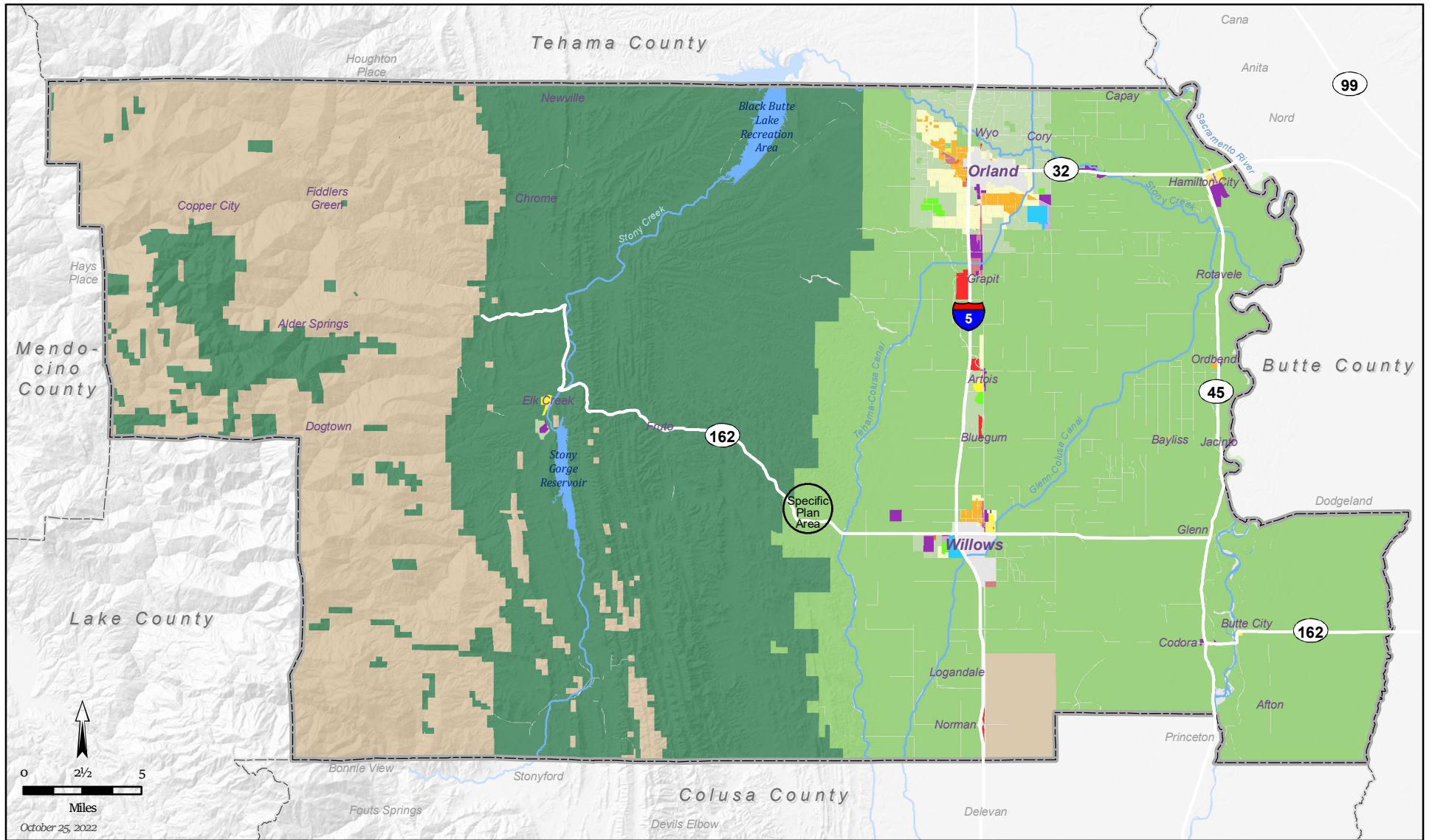
Alternative 2

Like The Proposed Project, Alternative 2 reflects the current goals and vision expressed by the county's residents, businesses, decision-makers, and other stakeholders; through the updated policy document, and addresses new requirements of State law, including housing goals, environmental justice, resource conservation etc. Alternative 2 meets the basic Project Objectives. However, without the updated Land Use Map, Alternative 2 provides less opportunities for attainable and high-quality housing options and development opportunities for job creation throughout the county.

Alternative 3

Like the proposed Project, Alternative 3 would satisfy many Project Objectives as it would adopt the updated policy document. This alternative would allow for less growth that would be allowed under the proposed Project. Objectives of the General Plan include establishing a greater connection between the General Plan and current planning issues, and being consistent with state law. Housing needs and the ability of support housing throughout the planning areas is locally and regionally important to supporting housing development and statewide housing goals. Alternative 3 is the environmentally superior alternative, as it was developed and refined to reduce as many environmental effects as possible while still meeting many of the project objectives. However, without additional opportunities for future growth and housing opportunities, Alternative 3 provides less options for housing and job creation throughout the planning area. The county will be required to meet the RHNA during each cycle update. The most current RHNA for the county includes the need to identify parcels to accommodate 229 units within the unincorporated areas of the county during an 8-year housing cycle. These areas identified for development need to be near service areas and in areas and density ranges to serve a variety of needs including higher density and affordable units. The reduced development potential anticipated under Alternative 3 would reduce the overall levels of future development when compared to the proposed Project through reductions in developable areas, and may not provide ample developable areas to meet future RHNAs without increasing density ranges within residential land use designations.

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General Plan Designations

- | | | | |
|-------------------------------|-------------------|--|-----------------------------|
| Foothill Agriculture/Forestry | Recreation | Local Commercial | Rural Residential |
| General Agriculture | Industrial | Community Commercial | Single Family Residential |
| Intensive Agriculture | Public Facilities | Highway and Visitor Service Commercial | Suburban Residential |
| Agricultural/Residential | Business Park | Service Commercial | Multiple Family Residential |

COUNTY OF GLENN, CALIFORNIA

**FIGURE 5.0-1 EXISTING
GENERAL PLAN LAND USE MAP**

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GLENN COUNTY

Mardy Thomas Director

DE NOVO PLANNING GROUP

Ben Ritchie Principal /Project Manager

William Crenshaw Senior Planner

Jennifer DeMartino, GIS Manager

Ziqian Yin Assistant Planner / GIS Technician

Saxelby Acoustics – Noise Consultant

Luke Saxelby Principal

Fehr & Peers – Transportation Consultant

David Robinson Principal

Sonia Anthoine Transportation Planner

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Appendix A

Notice of Preparation and NOP Comments



GLENN COUNTY GENERAL PLAN UPDATE

Notice of Preparation and Scoping Meeting Glenn County General Plan Update Environmental Impact Report

Date: October 28, 2022

To: State Clearinghouse, Agencies, Organizations and Interested Parties

Subject: Notice of Preparation and Scoping Meeting for the Glenn County General Plan Update Environmental Impact Report

Scoping Meeting: **November 16, 2022, 4:00 p.m.**

Comment Period: **October 28, 2022 to November 28, 2022.**

The County of Glenn (County) will serve as Lead Agency in the preparation of a programmatic Environmental Impact Report (EIR) for the Glenn County General Plan Update (Plan).

The purpose of this notice is (1) to serve as a Notice of Preparation (NOP) of an EIR pursuant to the State CEQA Guidelines Section 15082, (2) to advise and solicit comments and suggestions regarding the scope and content of the EIR to be prepared for the proposed Project, and (3) to notice the public scoping meeting. The proposed Project is a long-term General Plan consisting of policies that will guide future development activities and County actions. No specific development projects are proposed as part of the Plan. Information regarding the project description, project location, and topics to be addressed in the Draft EIR is provided below. Additional Project documents and information (including the Proposed Draft General Plan) are available at the Glenn County Planning & Community Development Services located at: 225 N Tehama Street Willows California 95988 and online at the General Plan Update website available at: <https://glenncounty.generalplan.org/>

For questions regarding this notice, please contact Mardy Thomas - Director Glenn County Planning & Community Development Services at (530) 934-6540, or by email: mthomas@countyofglenn.net

Notice of Preparation 30-Day Comment Period

The County, as Lead Agency, requests that responsible and trustee agencies, and the Office of Planning and Research, respond in a manner consistent with Section 15082(b) of the CEQA Guidelines. Pursuant to Public Resources Code Section 21080.4, responsible agencies, trustee agencies and the Office of Planning and Research must submit any comments in response to this

notice no later than 30 days after receipt. In accordance with the time limits established by CEQA, the NOP public review period will begin on October 28, 2022 and end on November 28, 2022.

In the event that the County does not receive a response from any Responsible or Trustee Agency by the end of the review period, the County may presume that the Responsible Agency or Trustee Agency has no response to make (State CEQA Guidelines Section 15082(b)(2)). All Comments in response to this notice must be submitted in writing at the address below, or via email, by the close of the 30-day NOP review period, which is 5:00 PM on November 28, 2022:

Mardy Thomas, Director
Glenn County Planning & Community Development Services
225 N Tehama Street
Willows, California 95988
Phone: 530.934.6540
Email: mthomas@countyofglenn.net

Scoping Meeting

The County will hold a scoping meeting to provide an opportunity for agency representatives and the public to assist the County in determining the scope and content of the EIR.

The scoping meeting will be held on **November 16, 2022 at 4:00pm, at:**

Glenn County Planning & Community Development Services
225 N Tehama Street
Willows California 95988

Project Location and Setting

As shown on Figure-1 (Regional Location) Glenn County is located in the northern Sacramento Valley and the eastern foothills and mountains of the Coast Range, approximately 80 miles north of the City of Sacramento. The county extends from the Sacramento River west to the Coast Range. Located in Glenn County are the cities of Willows and Orland and the unincorporated communities of Hamilton City, Ord Bend, Artois, Elk Creek, Butte City, and Glenn, and numerous other small areas of developments. The county has remained predominantly an agricultural region due to its alluvial soil, mild climate, and access to water resources.

The Planning Area (or Study Area) for this General Plan EIR is all unincorporated areas of Glenn County. The General Plan boundary (Planning Area) is shown in Figure 2 (Proposed General Plan Land Use Map).

Project Description

The Glenn County General Plan is a blueprint for growth in County through 2040. The General Plan provides a framework for future growth in the unincorporated areas of the County in the form of goals and policies that are designed to facilitate planned growth in an orderly manner. Upon adoption, the General Plan will replace the County's existing General Plan.

The General Plan describes anticipated future growth over the long-term and is the subject of this Draft EIR, which provides technical background information for the General Plan. The General Plan is meant to express the community's goals with respect to the human-made and natural environments and to set forth the policies and implementation measures needed to achieve those goals for the welfare of those who live, work, and do business in Glenn County.

State law requires the County to adopt a comprehensive, long-term general plan for the physical development of its planning area. The Plan must include land use, circulation, housing, conservation, open space, noise, and safety elements, as specified in Government Code Section 65302, to the extent that the issues identified by State law exist in the County's planning area.

The General Plan includes a comprehensive set of goals, policies, and actions (implementation measures), as well as a revised Land Use Map (Figure 2).

- A **goal** is a description of the general desired result that the County seeks to create through the implementation of the General Plan.
- A **policy** is a specific statement that guides decision-making as the County works to achieve its goals. Once adopted, policies represent statements of County regulations. The General Plan's policies set out the standards that will be used by staff, the Planning Commission, and the Board of Supervisors in their review of land development projects, resource protection activities, infrastructure improvements, and other County actions. Policies are on-going and don't necessarily require specific action on behalf of the County.
- An **action** is an implementation measure, procedure, technique, or specific program to be undertaken by the County to help achieve a specified goal or implement an adopted policy. The County must take additional steps to implement each action in the General Plan. An action is something that can and will be completed.

The Glenn County General Plan includes all of the State-mandated topics and elements noted above, and addresses additional topics, such as Environmental Justice (in the Land Use Element) and Climate Adaptation and Resiliency (in the Safety Element), and included stand-alone elements for Agriculture, Economic Development, and an Implementation Element.

The following objectives are identified for the proposed update to the General Plan:

- Foster a strong sense of community that celebrates the County's unique identity, agricultural heritage, and rural way of life.
- Provide a high standard of living for citizens through local programs, high quality services, public safety, local amenities, and educational opportunities that are accessible to all residents.
- Improve the County's ability to be fiscally sustainable and proactively supportive of local businesses through the expansion of commercial activities, retention of existing successful commercial businesses, and redevelopment of underperforming commercial centers.
- Support and encourage the expansion of a variety of businesses that provide high quality employment and opportunities for economic advancement and resiliency, while enhancing the County's reputation as a prime location for business growth.
- Be an active steward of the County's vast natural resources in order to ensure that present and future generations have access to these resources for economic and recreational benefit.
- Address new requirements of State law.

Growth Projections

While no specific development projects are proposed as part of the General Plan Update, the General Plan will accommodate future growth in the county, including new businesses, expansion of existing businesses, and new residential uses. 2040 is assumed to be the buildout year of the General Plan.

Growth projections should not be considered a prediction for growth, as the actual amount of development that will occur throughout the planning horizon of the General Plan is based on many factors outside of the County’s control. Actual future development would depend on future real estate and labor market conditions, property owner preferences and decisions, site-specific constraints, and other factors. New development and growth are largely dictated by existing development conditions, market conditions, and land turnover rates. Very few communities in California actually develop to the full potential allowed in their respective General Plans during the planning horizon.

As shown in Table 1, projected development under the 2040 General Plan is estimated to result in 773 new housing units in Glenn County by 2040, and 531,250 additional square feet of job-generating, non-residential development. This growth would result in a population increase of approximately 2,172 persons and an increase in employment by 745 jobs. Development totals, which include projected development through 2040 and existing development, are shown in Table 1 below.

TABLE 1: GROWTH PROJECTIONS

	Population	Dwelling Units	Non-Residential Square Feet	Jobs	Jobs per Housing Unit
Existing Conditions					
	14,917	5,810	2,951,366	4,204	0.724
New Growth Potential					
Proposed General Plan	2,172	773	531,250	745	0.964
Total Growth: Existing Plus New Growth Potential					
Proposed General Plan	17,089	6,583	3,482,616	4,949	0.752

SOURCES: GLENN COUNTY GIS DATASET, DE NOVO PLANNING GROUP 2022. Glenn County Assessor 2018; California Department of Finance 2020;; U.S. Census OntheMap 2019 employment estimates.

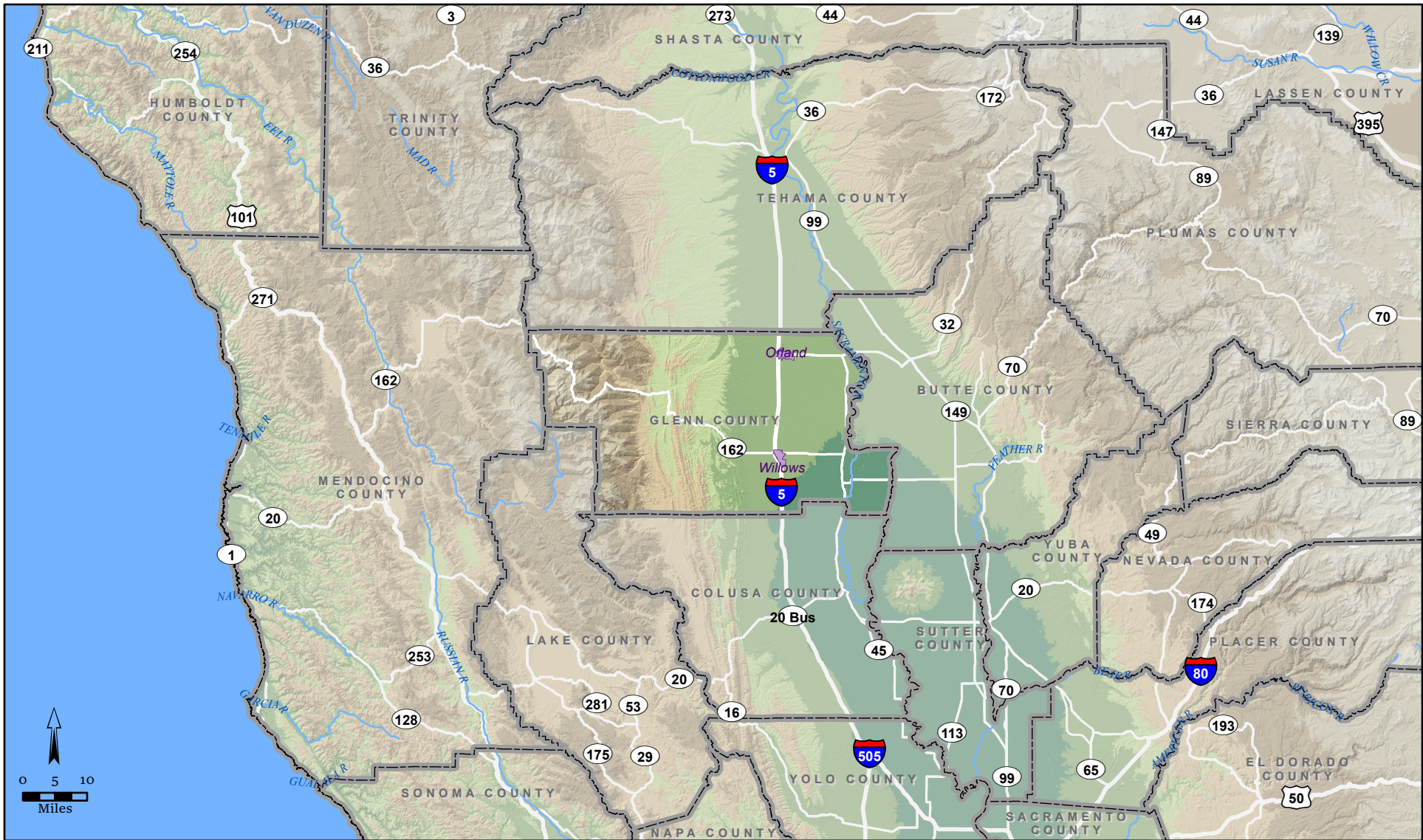
Program EIR Analysis

The County, as the Lead Agency under the California Environmental Quality Act (CEQA), will prepare a Program EIR for the Glenn County General Plan Update. The EIR will be prepared in accordance with CEQA, the CEQA Guidelines (Guidelines), relevant case law, and County procedures. No Initial Study will be prepared pursuant to Section 15063(a) of the CEQA Guidelines.



The EIR will analyze potentially significant impacts associated with adoption and implementation of the General Plan. In particular, the EIR will focus on areas that have development potential. The

EIR will evaluate the full range of environmental issues contemplated under CEQA and the CEQA Guideline. At this time, the County anticipates that EIR sections will be organized in the following topical areas:

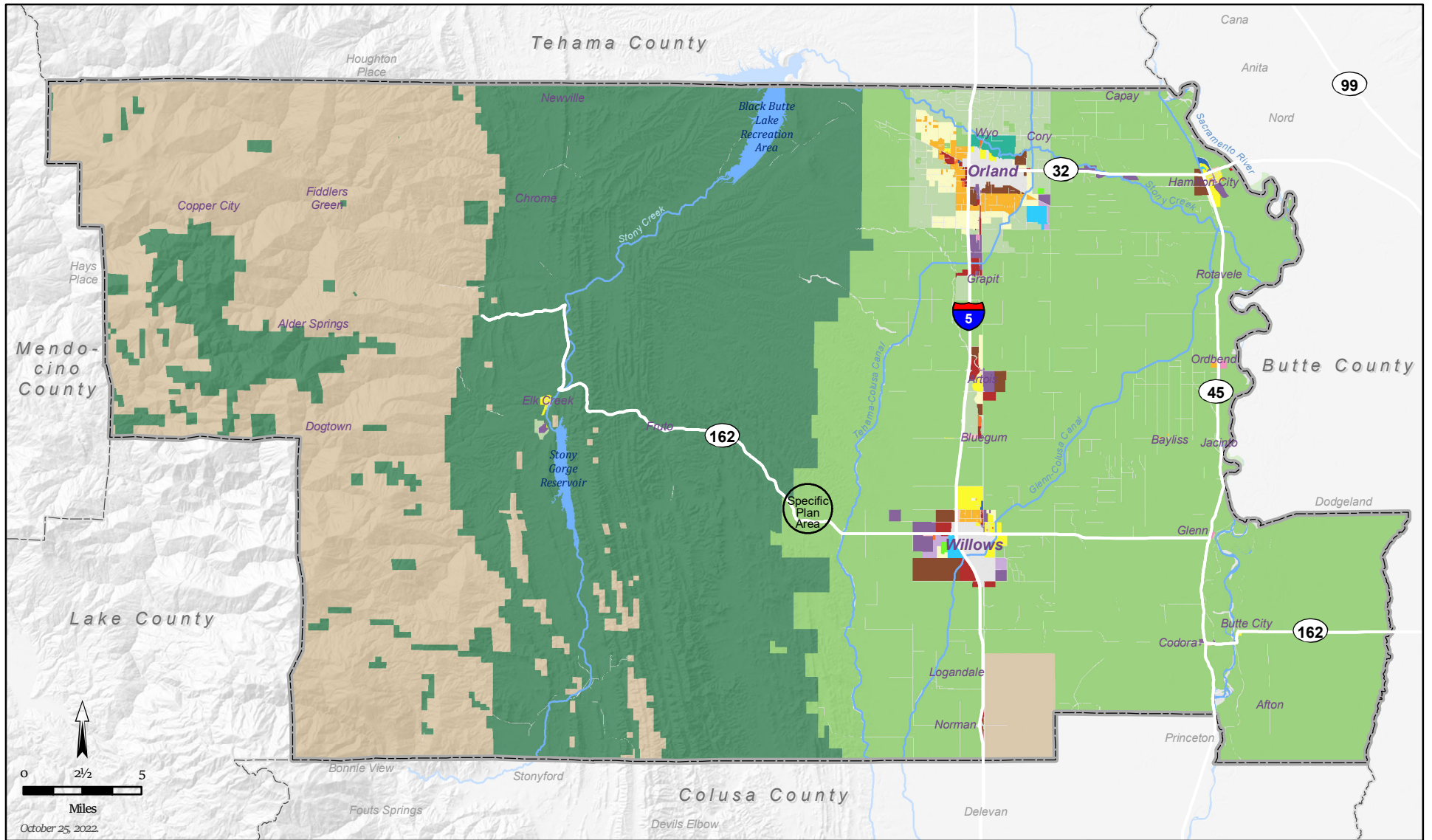
- Aesthetic Resources
- Agriculture and Forestry Resources
- Air Quality
- Biological Resources
- Cultural and Tribal Cultural Resources
- Geology, Soils, and Mineral Resources
- Greenhouse Gases, Climate Change, and Energy
- Hazards and Hazardous Materials
- Hydrology and Water Quality
- Land Use and Planning
- Noise
- Population and Housing
- Public Services and Recreation
- Transportation
- Utilities/Service Systems
- Wildfire
- Mandatory Findings of Significance/Cumulative Impacts
- Alternatives



Source: Glenn County GIS. Map date: October 10, 2022.

- Legend**
-  County Boundary
 -  Incorporated Area in Glenn County

COUNTY OF GLENN, CALIFORNIA
 Figure -1 Regional Location



General Plan Designations

- | | | | | | |
|--|-------------------------------|--|--------------------------------|--|--------------------------------|
| | Foothill Agriculture/Forestry | | Single Family Residential | | Rural Service Center |
| | General Agriculture | | Suburban Residential | | Business Park Light Industrial |
| | Intensive Agriculture | | Multiple Family Residential | | Industrial |
| | Agricultural/Residential | | Urban Reserve | | Mixed Use |
| | Ag Transition | | Community Commercial | | Public Facilities |
| | Rural Residential | | Highway and Service Commercial | | Recreation |

COUNTY OF GLENN, CALIFORNIA

FIGURE 2.
DRAFT LAND USE MAP - COUNTYWIDE



State of California – Natural Resources Agency
DEPARTMENT OF FISH AND WILDLIFE
North Central Region
1701 Nimbus Road, Suite A
Rancho Cordova, CA 95670-4599
916-358-2900
www.wildlife.ca.gov

GAVIN NEWSOM, Governor
CHARLTON H. BONHAM, Director



November 22, 2022

Mardy Thomas
Director
Glenn County Planning & Community Development Services
225 N Tehama Street Willows, CA, 95988
mthomas@countyofglenn.net

Subject: COUNTY GENERAL PLAN UPDATE - NOTICE OF PREPARATION DRAFT
PROGRAM ENVIRONMENTAL IMPACT REPORT (PEIR)
SCH# 2022100620

Dear Mr. Thomas:

The California Department of Fish and Wildlife (CDFW) received and reviewed the Notice of Preparation of a Draft Programmatic Environmental Impact Report (PEIR) from Glenn County Planning and Community Development Services for the Glenn County General Plan Update (Project) in Glenn County pursuant the California Environmental Quality Act (CEQA) statute and guidelines.¹

Thank you for the opportunity to provide comments and recommendations regarding those activities involved in the Project that may affect California fish, wildlife, plants, and their habitats. Likewise, we appreciate the opportunity to provide comments regarding those aspects of the Project that CDFW, by law, may need to exercise its own regulatory authority under the Fish and Game Code (Fish & G. Code).

CDFW ROLE

CDFW is California's Trustee Agency for fish and wildlife resources and holds those resources in trust by statute for all the people of the State (Fish & G. Code, §§ 711.7, subd. (a) & 1802; Pub. Resources Code, § 21070; CEQA Guidelines § 15386, subd. (a)). CDFW, in its trustee capacity, has jurisdiction over the conservation, protection, and management of fish, wildlife, native plants, and habitat necessary for biologically sustainable populations of those species (*Id.*, § 1802.). Similarly, for purposes of CEQA, CDFW provides, as available, biological expertise during public agency environmental

¹ CEQA is codified in the California Public Resources Code in section 21000 et seq. The "CEQA Guidelines" are found in Title 14 of the California Code of Regulations, commencing with section 15000.

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review efforts, focusing specifically on projects and related activities that have the potential to adversely affect fish and wildlife resources.

CDFW may also act as a Responsible Agency under CEQA. (Pub. Resources Code, § 21069; CEQA Guidelines, § 15381.) CDFW expects that it may need to exercise regulatory authority as provided by the Fish and Game Code. As proposed, for example, the Project may be subject to CDFW's lake and streambed alteration regulatory authority. (Fish & G. Code, § 1600 et seq.) Likewise, to the extent implementation of the Project as proposed may result in "take" as defined by State law of any species protected under the California Endangered Species Act (CESA) (Fish & G. Code, § 2050 et seq.), the project proponent may seek related take authorization as provided by the Fish and Game Code.

PROJECT DESCRIPTION SUMMARY

The Project site is located in Glenn County, encompassing the entirety of the County.

The Project consists of a Programmatic Update to the County General Plan. The proposed project is a long-term General Plan consisting of policies that will guide future development activities and County actions. No specific development projects are proposed as part of the Plan.

The Project description should include the whole action as defined in the CEQA Guidelines section 15378 and should include appropriate detailed exhibits disclosing the Project area including temporary impacted areas such as equipment stage area, spoils areas, adjacent infrastructure development, staging areas and access and haul roads if applicable.

As required by section 15126.6 of the CEQA Guidelines, the PEIR should include an appropriate range of reasonable and feasible alternatives that would attain most of the basic Project objectives and avoid or minimize significant impacts to resources under CDFW's jurisdiction.

COMMENTS AND RECOMMENDATIONS

CDFW offers the comments and recommendations presented below to assist the Glenn County Planning & Community Development Services in adequately identifying and/or mitigating the Project's significant, or potentially significant, impacts on biological resources. The comments and recommendations are also offered to enable CDFW to adequately review and comment on the proposed Project with respect to impacts on biological resources. CDFW recommends that the forthcoming PEIR address the following:

Assessment of Biological Resources

Section 15125(c) of the CEQA Guidelines states that knowledge of the regional setting of a project is critical to the assessment of environmental impacts and that special emphasis should be placed on environmental resources that are rare or unique to the region. To enable CDFW staff to adequately review and comment on the Project, the PEIR should include a complete assessment of the flora and fauna within and adjacent to the Project footprint, with emphasis on identifying rare, threatened, endangered, and other sensitive species and their associated habitats. CDFW recommends the PEIR specifically include:

1. An assessment of all habitat types located within the Project footprint, and a map that identifies the location of each habitat type. CDFW recommends that floristic, alliance- and/or association-based mapping and assessment be completed following, *The Manual of California Vegetation*, second edition (Sawyer 2009). Adjoining habitat areas should also be included in this assessment where site activities could lead to direct or indirect impacts offsite. Habitat mapping at the alliance level will help establish baseline vegetation conditions.
2. A general biological inventory of the fish, amphibian, reptile, bird, and mammal species that are present or have the potential to be present within each habitat type onsite and within adjacent areas that could be affected by the Project. CDFW recommends that the California Natural Diversity Database (CNDDDB), as well as previous studies performed in the area, be consulted to assess the potential presence of sensitive species and habitats. A nine United States Geologic Survey (USGS) 7.5-minute quadrangle search is recommended to determine what may occur in the region, larger if the Project area extends past one quad (see *Data Use Guidelines* on the Department webpage www.wildlife.ca.gov/Data/CNDDDB/Maps-and-Data). Please review the webpage for information on how to access the database to obtain current information on any previously reported sensitive species and habitat, including Significant Natural Areas identified under Chapter 12 of the Fish and Game Code, in the vicinity of the Project. CDFW recommends that CNDDDB Field Survey Forms be completed and submitted to CNDDDB to document survey results. Online forms can be obtained and submitted at: <https://www.wildlife.ca.gov/Data/CNDDDB/Submitting-Data>.

Please note that CDFW's CNDDDB is not exhaustive in terms of the data it houses, nor is it an absence database. CDFW recommends that it be used as a starting point in gathering information about the *potential presence* of species within the general area of the Project site. Other sources for identification of species and habitats near or adjacent to the Project area should include, but may not be limited to, State and federal resource agency lists, California Wildlife Habitat Relationship (CWHR) System, California Native Plant Society (CNPS)

Inventory, agency contacts, environmental documents for other projects in the vicinity, academics, and professional or scientific organizations.

3. A complete and recent inventory of rare, threatened, endangered, and other sensitive species located within the Project footprint and within offsite areas with the potential to be affected, including California Species of Special Concern and California Fully Protected Species (Fish & G. Code § § 3511, 4700, 5050, and 5515). Species to be addressed should include all those which meet the CEQA definition (CEQA Guidelines § 15380). The inventory should address seasonal variations in use of the Project area and should not be limited to resident species. The PEIR should include the results of focused species-specific surveys, completed by a qualified biologist, and conducted at the appropriate time of year and time of day when the sensitive species are active or otherwise identifiable. Species-specific surveys should be conducted in order to ascertain the presence of species with the potential to be directly, indirectly, on or within a reasonable distance of the Project activities. CDFW recommends the Glenn County Planning & Community Development Services rely on survey and monitoring protocols and guidelines available at: www.wildlife.ca.gov/Conservation/Survey-Protocols. Alternative survey protocols may be warranted; justification should be provided to substantiate why an alternative protocol is necessary. Acceptable species-specific survey procedures should be developed in consultation with CDFW and the U.S. Fish and Wildlife Service, where necessary. Some aspects of the Project may warrant periodic updated surveys for certain sensitive taxa, particularly if the Project is proposed to occur over a protracted time frame, or in phases, or if surveys are completed during periods of drought or deluge.
4. A complete analysis of water resources including mapping of groundwater dependent ecosystems (GDEs) and interconnected surface water (ISW) within Glenn County. Analysis should assess potential localized reduction in groundwater levels and associated reduction in groundwater availability for GDEs and ISW.
5. A thorough, recent (within the last two years), floristic-based assessment of special-status plants and natural communities, following CDFW's *Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Natural Communities* (see www.wildlife.ca.gov/Conservation/Plants).
6. Information on the regional setting that is critical to an assessment of environmental impacts, with special emphasis on resources that are rare or unique to the region (CEQA Guidelines § 15125[c]).

Analysis of Direct, Indirect, and Cumulative Impacts to Biological Resources

The PEIR should provide a thorough discussion of the Project's potential direct, indirect, and cumulative impacts on biological resources. To ensure that Project impacts on

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biological resources are fully analyzed, the following information should be included in the PEIR:

1. The PEIR should define the threshold of significance for each impact and describe the criteria used to determine whether the impacts are significant (CEQA Guidelines, § 15064, subd. (f)). The PEIR must demonstrate that the significant environmental impacts of the Project were adequately investigated and discussed, and it must permit the significant effects of the Project to be considered in the full environmental context.

The Public Trust Doctrine imposes a distinct obligation to consider how groundwater management affects public trust resources, including navigable surface waters and fisheries. Groundwater hydrologically connected to surface waters is also subject to the Public Trust Doctrine to the extent that groundwater extractions or diversions affect or may affect public trust uses. (*Environmental Law Foundation v. State Water Resources Control Board* (2018), 26 Cal. App. 5th 844; *National Audubon Society v. Superior Court* (1983), 33 Cal. 3d 419.) The County, as a Groundwater Sustainability Agency (GSA), has “an affirmative duty to take the public trust into account in the planning and allocation of water resources, and to protect public trust uses whenever feasible.” (*National Audubon Society*, supra, 33 Cal. 3d at 446.)

Portions of Glenn County are underlain by the Colusa, Corning, and Butte Subbasins; each subbasin submitted a final Groundwater Sustainability Plan (GSP) to the Department of Water Resources (DWR) in January 2022. The PEIR should include a discussion of each subbasin GSP’s sustainable management criteria, and the PEIR’s thresholds of significance related to potential Project impacts on groundwater resources should be at least as protective as the management criteria identified in the GSPs. The PEIR should consider and discuss the Project’s potential impact on the ability of the subbasins within Butte County to achieve groundwater sustainability as defined in their GSPs.

The PEIR should also include a thorough discussion of the Project’s potential impacts on public trust resources that may result from proposed zoning, subsequent approval of domestic and agricultural wells, and the resulting increase in groundwater pumping from development. Analysis should assess potential localized reduction in groundwater levels and associated reduction in groundwater availability for GDEs and ISW, and propose mitigation measures, if warranted, to prevent groundwater-related project impacts from adversely affecting public trust resources.

Tools to support this analysis may include the Natural Communities Commonly Associated with Groundwater (NCCAG) dataset, which identifies locations of potential GDEs, available at: <https://gis.water.ca.gov/app/NCDatasetViewer/#>; The Nature Conservancy’s GDE Pulse tool, which identifies trends in GDE health

through the Normalized Difference Vegetation Index (NDVI), Normalized Difference Moisture Index (NDMI), precipitation, and groundwater, available at: <https://gde.codefornature.org/#/map>; and The Nature Conservancy's Plant Rooting Depth Database, which can support an assessment of vegetation's groundwater reliance, available at: <https://groundwaterresourcehub.org/sgma-tools/gde-rooting-depths-database-for-gdes>.

2. A discussion of potential impacts from lighting, noise, human activity, and wildlife-human interactions created by Project activities especially those adjacent to natural areas, exotic and/or invasive species occurrences, and drainages. The PEIR should address Project-related changes to drainage patterns and water quality within, upstream, and downstream of the Project site, including: volume, velocity, and frequency of existing and post-Project surface flows; polluted runoff; soil erosion and/or sedimentation in streams and water bodies; and post-Project fate of runoff from the Project site.
3. A discussion of potential indirect Project impacts on biological resources, including resources in areas adjacent to the Project footprint, such as nearby public lands (e.g. National Forests, State Parks, etc.), open space, adjacent natural habitats, riparian ecosystems, wildlife corridors, and any designated and/or proposed reserve or mitigation lands (e.g., preserved lands associated with a Conservation or Recovery Plan, or other conserved lands).
4. A cumulative effects analysis developed as described under CEQA Guidelines section 15130. The PEIR should discuss the Project's cumulative impacts to natural resources and determine if that contribution would result in a significant impact. The PEIR should include a list of present, past, and probable future projects producing related impacts to biological resources or shall include a summary of the projections contained in an adopted local, regional, or statewide plan, that consider conditions contributing to a cumulative effect. The cumulative analysis shall include impact analysis of vegetation and habitat reductions within the area and their potential cumulative effects. Please include all potential direct and indirect Project-related impacts to riparian areas, wetlands, wildlife corridors or wildlife movement areas, aquatic habitats, sensitive species and/or special-status species, open space, and adjacent natural habitats in the cumulative effects analysis.

Mitigation Measures for Project Impacts to Biological Resources

The PEIR should include appropriate and adequate avoidance, minimization, and/or mitigation measures for all direct, indirect, and cumulative impacts that are expected to occur as a result of the construction and long-term operation and maintenance of the Project. CDFW also recommends the environmental documentation provide scientifically supported discussion regarding adequate avoidance, minimization, and/or mitigation measures to address the Project's significant impacts upon fish and wildlife

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and their habitat. For individual projects, mitigation must be roughly proportional to the level of impacts, including cumulative impacts, in accordance with the provisions of CEQA (Guidelines § § 15126.4(a)(4)(B), 15064, 15065, and 16355). In order for mitigation measures to be effective, they must be specific, enforceable, and feasible actions that will improve environmental conditions. When proposing measures to avoid, minimize, or mitigate impacts, CDFW recommends consideration of the following:

1. *Fully Protected Species*: Several Fully Protected Species (Fish & G. Code § § 3511, 4700, 5050 and 5515) have the potential to occur within or adjacent to the Project area, including, but not limited to: California Black Rail (*Laterallus jamaicensis coturniculus*), Southern Bald Eagle (*Haliaeetus leucocephalus leucocephalus*), Greater Sandhill Crane (*Grus canadensis tabida*), White-tailed Kite (*Elanus leucurus*), ringtail (*Bassariscus astutus*), and wolverine (*Gulo gulo*). Fully protected species may not be taken or possessed at any time. Project activities described in the PEIR should be designed to completely avoid any fully protected species that have the potential to be present within or adjacent to the Project area. CDFW also recommends the PEIR fully analyze potential adverse impacts to fully protected species due to habitat modification, loss of foraging habitat, and/or interruption of migratory and breeding behaviors. CDFW recommends that the Glenn County Planning & Community Development Services include in the analysis how appropriate avoidance, minimization and mitigation measures will reduce indirect impacts to fully protected species.
2. *Species of Special Concern*: Several Species of Special Concern (SSC) have the potential to occur within or adjacent to the Project area, including, but not limited to: North Coast population of foothill yellow-legged frog (*Rana boylei* pop.1), western spadefoot toad (*Spea hammondi*), Northern Goshawk (*Accipiter gentilis*), Burrowing Owl (*Athene cunicularia*), Northern Harrier (*Circus hudsonius*), Modesto population of the Song Sparrow (*Melospiza melodia* pop.1), Townsend's big eared bat (*Corynorhinus townsendii*), western mastiff bat (*Eumops perotis californicus*), western red bat (*Lasiurus frantzii*), Humboldt marten (*Martes caurina humboldtensis*), fisher (*Pekania pennanti*), American badger (*Taxedia taxus*), and western pond turtle (*Emys marmorata*). Project activities described in the PEIR should be designed to avoid any SSC that have the potential to be present within or adjacent to the Project area. CDFW also recommends that the PEIR fully analyze potential adverse impacts to SSC due to habitat modification, loss of foraging habitat, and/or interruption of migratory and breeding behaviors. CDFW recommends the Glenn County Planning & Community Development Services include in the analysis how appropriate avoidance, minimization and mitigation measures will reduce impacts to SSC.
3. *Sensitive Plant Communities*: CDFW considers sensitive plant communities to be imperiled habitats having both local and regional significance. Plant communities,

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alliances, and associations with a statewide ranking of S-1, S-2, S-3, and S-4 should be considered sensitive and declining at the local and regional level. These ranks can be obtained by querying the CNDDDB and are included in *The Manual of California Vegetation* (Sawyer 2009). The PEIR should include measures to fully avoid and otherwise protect sensitive plant communities from Project-related direct and indirect impacts.

4. *Native Wildlife Nursery Sites*: CDFW recommends the PEIR fully analyze potential adverse impacts to native wildlife nursery sites, including but not limited to bat maternity roosts. Based on review of Project materials, aerial photography, and observation of Glenn County from public roadways, the Project area contains potential nursery habitat for structure and tree roosting bats and potential foraging habitat. Bats are considered non-game mammals and are afforded protection by state law from take and/or harassment, (Fish & G. Code, § 4150; Cal. Code of Regs, § 251.1). CDFW recommends that the PEIR fully identify the Project's potential impacts to native wildlife nursery sites, and include appropriate avoidance, minimization and mitigation measures to reduce impacts or mitigate any potential significant impacts to bat nursery sites.
5. *Mitigation*: CDFW considers adverse Project-related impacts to sensitive species and habitats to be significant to both local and regional ecosystems, and the PEIR should include mitigation measures for adverse Project-related impacts to these resources. Mitigation measures should emphasize avoidance and reduction of Project impacts. For unavoidable impacts, onsite habitat restoration, enhancement, or permanent protection should be evaluated and discussed in detail. If onsite mitigation is not feasible or would not be biologically viable and therefore not adequately mitigate the loss of biological functions and values, offsite mitigation through habitat creation and/or acquisition and preservation in perpetuity should be addressed.

The PEIR should include measures to perpetually protect the targeted habitat values within mitigation areas from direct and indirect adverse impacts in order to meet mitigation objectives to offset Project-induced qualitative and quantitative losses of biological values. Specific issues that should be addressed include restrictions on access, proposed land dedications, long-term monitoring and management programs, control of illegal dumping, water pollution, increased human intrusion, etc.

6. *Habitat Revegetation/Restoration Plans*: Plans for restoration and revegetation should be prepared by persons with expertise in the regional ecosystems and native plant restoration techniques. Plans should identify the assumptions used to develop the proposed restoration strategy. Each plan should include, at a minimum: (a) the location of restoration sites and assessment of appropriate reference sites; (b) the plant species to be used, sources of local propagules, container sizes, and seeding rates; (c) a schematic depicting the mitigation area;

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(d) a local seed and cuttings and planting schedule; (e) a description of the irrigation methodology; (f) measures to control exotic vegetation on site; (g) specific success criteria; (h) a detailed monitoring program; (i) contingency measures should the success criteria not be met; and (j) identification of the party responsible for meeting the success criteria and providing for conservation of the mitigation site in perpetuity. Monitoring of restoration areas should extend across a sufficient time frame to ensure that the new habitat is established, self-sustaining, and capable of surviving drought.

CDFW recommends that local onsite propagules from the Project area and nearby vicinity be collected and used for restoration purposes. Onsite seed collection should be appropriately timed to ensure the viability of the seeds when planted. Onsite vegetation mapping at the alliance and/or association level should be used to develop appropriate restoration goals and local plant palettes. Reference areas should be identified to help guide restoration efforts. Specific restoration plans should be developed for various Project components as appropriate. Restoration objectives should include protecting special habitat elements or re-creating them in areas affected by the Project. Examples may include retention of woody material, logs, snags, rocks, and brush piles. Fish and Game Code sections 1002, 1002.5 and 1003 authorize CDFW to issue permits for the take or possession of plants and wildlife for scientific, educational, and propagation purposes. Please see our website for more information on Scientific Collecting Permits at www.wildlife.ca.gov/Licensing/Scientific-Collecting#53949678-regulations-.

7. *Nesting Birds*: Please note that it is the Project proponent's responsibility to comply with all applicable laws related to nesting birds and birds of prey. Migratory nongame native bird species are protected by international treaty under the federal Migratory Bird Treaty Act (MBTA) of 1918, as amended (16 U.S.C. 703 *et seq.*). CDFW implemented the MBTA by adopting the Fish and Game Code section 3513. Fish and Game Code sections 3503, 3503.5 and 3800 provide additional protection to nongame birds, birds of prey, their nests and eggs. Sections 3503, 3503.5, and 3513 of the Fish and Game Code afford protective measures as follows: section 3503 states that it is unlawful to take, possess, or needlessly destroy the nest or eggs of any bird, except as otherwise provided by the Fish and Game Code or any regulation made pursuant thereto; section 3503.5 states that it is unlawful to take, possess, or destroy any birds in the orders Falconiformes or Strigiformes (birds-of-prey) or to take, possess, or destroy the nest or eggs of any such bird except as otherwise provided by the Fish and Game Code or any regulation adopted pursuant thereto; and section 3513 states that it is unlawful to take or possess any migratory nongame bird as designated in the MBTA or any part of such migratory nongame bird except as provided by rules and regulations adopted by the Secretary of the Interior under provisions of the MBTA.

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Potential habitat for nesting birds and birds of prey is present within the Project area. The Project should disclose all potential activities that may incur a direct or indirect take to nongame nesting birds within the Project footprint and its vicinity. Appropriate avoidance, minimization, and/or mitigation measures to avoid take must be included in the PEIR.

CDFW recommends the PEIR include specific avoidance and minimization measures to ensure that impacts to nesting birds or their nests do not occur. Project-specific avoidance and minimization measures may include, but not be limited to: Project phasing and timing, monitoring of Project-related noise (where applicable), sound walls, and buffers, where appropriate. The PEIR should also include specific avoidance and minimization measures that will be implemented should a nest be located within the Project site. In addition to larger, protocol level survey efforts (e.g. Swainson's Hawk surveys) and scientific assessments, CDFW recommends a final preconstruction survey be required no more than three (3) days prior to vegetation clearing or ground disturbance activities, as instances of nesting could be missed if surveys are conducted earlier.

8. *Moving out of Harm's Way*: The Project is anticipated to result in the clearing of natural habitats that support native species. To avoid direct mortality, the Glenn County Planning & Community Development Services should state in the PEIR a requirement for a qualified biologist with the proper handling permits, will be retained to be onsite prior to and during all ground- and habitat-disturbing activities. Furthermore, the PEIR should describe that the qualified biologist with the proper permits may move out of harm's way special-status species or other wildlife of low or limited mobility that would otherwise be injured or killed from Project-related activities, as needed. The PEIR should also describe qualified biologist qualifications and authorities to stop work to prevent direct mortality of special-status species. CDFW recommends fish and wildlife species be allowed to move out of harm's way on their own volition, if possible, and to assist their relocation as a last resort. It should be noted that the temporary relocation of onsite wildlife does not constitute effective mitigation for habitat loss.
9. *Translocation of Species*: Additionally, the PEIR should cover a range of possibilities for mitigation. The use of relocation, salvage, and/or transplantation as mitigation for impacts to rare, threatened, or endangered species are generally experimental in nature and largely unsuccessful. Therefore, the PEIR should describe additional mitigation measures utilizing habitat restoration, conservation, and/or preservation, in addition to avoidance and minimization measures, if it is determined that there may be impacts to rare, threatened, or endangered species.
10. *Groundwater Dependent Ecosystems and Interconnected Surface Waters*: CDFW considers adverse Project-related impacts to GDEs and ISWs to be significant. CDFW recommends that the PEIR fully identify the Project's potential impacts via

zoning and land use designation to GDEs and ISWs, and include appropriate avoidance, minimization and mitigation measures to reduce impacts or mitigate any potential significant impacts. Measures may include but are not limited to: designating open space around named creeks; requiring minimum well set-back distances from GDEs and ISW for future well drilling; establishing groundwater level thresholds based on likely GDE rooting depths or ISW streambed elevations that, when reached, would require a reduction in or cessation of pumping; setting pumping rate limits or seasonal forbearance periods during critical periods for special status species.

The PEIR should incorporate mitigation performance standards that would ensure that impacts are reduced to a less-than-significant level. Mitigation measures proposed in the PEIR should be made a condition of approval of the Project. Please note that obtaining a permit from CDFW by itself with no other mitigation proposal may constitute mitigation deferral. CEQA Guidelines section 15126.4, subdivision (a)(1)(B) states that formulation of mitigation measures should not be deferred until some future time. To avoid deferring mitigation in this way, the PEIR should describe avoidance, minimization and mitigation measures that would be implemented should the impact occur.

California Endangered Species Act

CDFW is responsible for ensuring appropriate conservation of fish and wildlife resources including threatened, endangered, and/or candidate plant and animal species, pursuant to the California Endangered Species Act (CESA). CDFW recommends that a CESA Incidental Take Permit (ITP) be obtained if the Project has the potential to result in “take” (Fish & G. Code § 86 defines “take” as “hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill”) of State-listed CESA species, either through construction or over the life of the Project.

State-listed species with the potential to occur in the area include, but are not limited to: California tiger salamander (*Ambystoma californiense*), Tricolored Blackbird (*Agelaius tricolor*), Greater Sandhill Crane (*Antigone canadensis tabida*), Swainson’s Hawk (*Buteo swainsoni*), Western Yellow-billed Cuckoo (*Coccyzus americanus occidentalis*), Bald Eagle (*Haliaeetus leucocephalus*), California Black Rail (*Laterallus jamaicensis coturniculus*), Bank Swallow (*Riparia riparia*), Least Bell’s Vireo (*Vireo bellii pusillus*), palmate-bracted bird's-beak (*Chloropyron palmatum*), Butte County meadowfoam (*Limnanthes floccosa californica*), Crotch bumble bee (*Bombus crotchii*), Wolverine (*Gulo gulo*), Humboldt marten (*Martes caurina humboldtensis*), Indian Valley brodiaea (*Brodiaea rosea*), Colusa grass (*Neostapfia colusana*), hairy Orcutt grass (*Orcuttia pilosa*), and giant gartersnake (*Thamnophis gigas*).

The PEIR should disclose the potential of the Project to take State-listed species and how the impacts will be avoided, minimized, and mitigated. Please note that mitigation measures that are adequate to reduce impacts to a less-than significant level to meet

CEQA requirements may not be enough for the issuance of an ITP. To issue an ITP, CDFW must demonstrate that the impacts of the authorized take will be minimized and fully mitigated (Fish & G. Code §2081 (b)). To facilitate the issuance of an ITP, if applicable, CDFW recommends the PEIR include measures to minimize and fully mitigate the impacts to any State-listed species the Project has potential to take. CDFW encourages early consultation with staff to determine appropriate measures to facilitate future permitting processes and to engage with the U.S. Fish and Wildlife Service and/or National Marine Fisheries Service to coordinate specific measures if both State and federally listed species may be present within the Project vicinity.

Native Plant Protection Act

The Native Plant Protection Act (NPPA) (Fish & G. Code §1900 *et seq.*) prohibits the take or possession of State-listed rare and endangered plants, including any part or product thereof, unless authorized by CDFW or in certain limited circumstances. Take of State-listed rare and/or endangered plants due to Project activities may only be permitted through an ITP or other authorization issued by CDFW pursuant to California Code of Regulations, Title 14, section 786.9 subdivision (b).

Lake and Streambed Alteration Program

The PEIR should identify all perennial, intermittent, and ephemeral rivers, streams, lakes, other hydrologically connected aquatic features, and any associated biological resources/habitats present within the entire Project footprint (including utilities, access and staging areas). The environmental document should analyze all potential temporary, permanent, direct, indirect and/or cumulative impacts to the above-mentioned features and associated biological resources/habitats that may occur because of the Project. If it is determined the Project will result in significant impacts to these resources the PEIR shall propose appropriate avoidance, minimization and/or mitigation measures to reduce impacts to a less-than-significant level.

Section 1602 of the Fish and Game Code requires an entity to notify CDFW prior to commencing any activity that may do one or more of the following:

1. Substantially divert or obstruct the natural flow of any river, stream or lake.
2. Substantially change or use any material from the bed, channel or bank of any river, stream, or lake; or
3. Deposit debris, waste, or other materials where it may pass into any river, stream, or lake.

Please note that "any river, stream or lake" includes those that are episodic (i.e., those that are dry for periods of time) as well as those that are perennial (i.e., those that flow year-round). This includes ephemeral streams and watercourses with a subsurface flow.

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It may also apply to work undertaken within the flood plain of a body of water.

If upon review of an entity's notification, CDFW determines that the Project activities may substantially adversely affect an existing fish or wildlife resource, a Lake and Streambed Alteration (LSA) Agreement will be issued which will include reasonable measures necessary to protect the resource. CDFW's issuance of an LSA Agreement is a "project" subject to CEQA (see Pub. Resources Code § 21065). To facilitate issuance of an LSA Agreement, if one is necessary, the PEIR should fully identify the potential impacts to the lake, stream, or riparian resources, and provide adequate avoidance, mitigation, and monitoring and reporting commitments. Early consultation with CDFW is recommended, since modification of the Project may avoid or reduce impacts to fish and wildlife resources. Notifications for projects should be submitted online through CDFW's Environmental Permit Information Management System (EPIMS). For more information about EPIMS, please visit <https://wildlife.ca.gov/Conservation/Environmental-Review/EPIMS>. More information about LSA Notifications, forms, and fees may be found at <https://www.wildlife.ca.gov/Conservation/Environmental-Review/LSA>.

Please note that other agencies may use specific methods and definitions to determine impacts to areas subject to their authorities. These methods and definitions often do not include all needed information for CDFW to determine the extent of fish and wildlife resources affected by activities subject to Notification under Fish and Game Code section 1602. Therefore, CDFW does not recommend relying solely on methods developed specifically for delineating areas subject to other agencies' jurisdiction (such as United States Army Corps of Engineers) when mapping lakes, streams, wetlands, floodplains, riparian areas, etc. in preparation for submitting a Notification of an LSA.

CDFW relies on the lead agency environmental document analysis when acting as a responsible agency issuing an LSA Agreement. CDFW recommends lead agencies coordinate with us as early as possible, since potential modification of the proposed Project may avoid or reduce impacts to fish and wildlife resources and expedite the Project approval process.

The following information will be required for the processing of an LSA Notification and CDFW recommends incorporating this information into any forthcoming CEQA document(s) to avoid subsequent documentation and Project delays:

1. Mapping and quantification of lakes, streams, and associated fish and wildlife habitat (e.g., riparian habitat, freshwater wetlands, etc.) that will be temporarily and/or permanently impacted by the Project, including impacts from access and staging areas. Please include an estimate of impact to each habitat type.

2. Discussion of specific avoidance, minimization, and mitigation measures to reduce Project impacts to fish and wildlife resources to a less-than-significant level. Please refer to section 15370 of the CEQA Guidelines.

Based on review of Project materials, aerial photography and observation of Glenn County from public roadways, the Project area supports a number of waterways, their unnamed tributaries, and associated riparian habitat, including but not limited to the Sacramento River, Butte Creek, Elk Creek, Grindstone Creek, the Central Irrigation Canal, Salt Creek, Willow Creek, Angel Slough, Watson Creek, Dry Gulch, No Name Drain, Hambright Creek, Logan Creek, Swallow Drain, Stony Creek, Clark's Valley Creek, Willow Creek Overflow, Stony Creek Irrigation Canal, Bayliss Slough, Drain A, Shoat Draw, County Road WW Drain Ditch, Tehama-Colusa Canal, Hunter Creek, Corbin Creek, Briscoe Creek, Walker Creek, Glenn-Colusa Canal, Tehama-Colusa Canal, Princeton-Codora Canal, Provident Main Canal, Provident Irrigation Canal, Quint Canal, Drumheller Canal, Packard Draw, Pancake Draw, Shoat Draw, Dead Dog Draw, Artois Drawlet, Colusa Drain, Drain A, Ortiz Drain, C.I.C. Drain, Afton Drain, Willow Creek Overflow, Sacramento River Overflow, North Fork Logan Creek Overflow, McKee Overflow, Howard Slough, Campbell Slough, Vansyckle Slough, White Cabin Creek, Wilson Creek, Nye Creek, Hunter Creek, Corbin Creek, Dry Creek, and Sheep Corral Creek. CDFW recommends the PEIR fully identify the Project's potential impacts to the stream and/or its associated vegetation and wetlands.

CHEMICAL USE

Rodenticides that control small mammal populations would also reduce available burrows, making the habitat no longer suitable for Burrowing Owl, giant garter snake and other sensitive wildlife species. Lack of underground refugia could result in increased exposure to predators, heat, and other elements. Additionally, the widespread use of rodenticides has been documented to result in wildlife losses due to non-target exposure of fully protected and listed species as well as losses through secondary exposure (McMillin et al. 2008, Hosea 2000). CDFW recommends that the PEIR fully identify, and address, the Project's potential impacts to fish and wildlife populations from the use of agricultural pesticides and related pest control activities.

ENVIRONMENTAL DATA

CEQA requires that information developed in environmental impact reports and negative declarations be incorporated into a database, which may be used to make subsequent or supplemental environmental determinations (Pub. Resources Code, § 21003, subd. (e)). Accordingly, please report any special-status species and natural communities detected during Project surveys to the California Natural Diversity Database (CNDDDB). The CNDDDB field survey form can be found at the following link: <https://www.wildlife.ca.gov/Data/CNDDDB/Submitting-Data>. The completed form can be submitted online or mailed electronically to CNDDDB at the following email address: CNDDDB@wildlife.ca.gov.

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FILING FEES

The Project, as proposed, would have an effect on fish and wildlife, and assessment of filing fees is necessary. Fees are payable upon filing of the Notice of Determination by the Glenn County Planning and Community Development Services and serve to help defray the cost of environmental review by CDFW. Payment of the fee is required in order for the underlying project approval to be operative, vested, and final. (Cal. Code Regs, tit. 14, § 753.5; Fish & G. Code § 711.4; Pub. Resources Code, § 21089.)

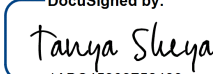
CONCLUSION

Pursuant to Public Resources Code sections 21092 and 21092.2, CDFW requests written notification of proposed actions and pending decisions regarding the Project. Written notifications shall be directed to: California Department of Fish and Wildlife North Central Region, 1701 Nimbus Road, Rancho Cordova, CA 95670.

CDFW appreciates the opportunity to comment on the NOP of the PEIR for the Glenn County General Plan Update and recommends that the Glenn County Planning and Community Development Services address CDFW's comments and concerns in the forthcoming PEIR. CDFW personnel are available for consultation regarding biological resources and strategies to minimize impacts.

If you have any questions regarding the comments provided in this letter, or wish to schedule a meeting, and/or site visit, please contact Robert Hosea, Environmental Scientist at (530) 708-1199 or robert.hosea@wildlife.ca.gov.

Sincerely,

DocuSigned by:

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Tanya Sheya
Environmental Program Manager

ec: Juan Torres, Senior Environmental Scientist (Supervisory)
Robert Hosea, Environmental Scientist

Department of Fish and Wildlife

Office of Planning and Research, State Clearinghouse, Sacramento

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Literature Cited

Hosea, R.C. 2000. Exposure of Non-Target Wildlife to Anticoagulant Rodenticides in California. Proceedings, 19th Vert. Pest Conf. (A.C. Crabb, Ed.) Publ. Univ. of Cal., Davis.

McMillin, S. C., R.C. Hosea, B.J. Finlayson, B.L. Cypher, and A Mekebri. 2008. Anticoagulant Rodenticide Exposure in an Urban Population of the San Joaquin Kit Fox. Proc.23rd Vertebrate. Pest Conf. (R. M. Timm and M. B. Madon, Eds.) Published at Univ. of Calif., Davis. Pp. 163-165.

Sawyer, J. O., T. Keeler-Wolf, and J. M. Evens. 2009. A Manual of California Vegetation, 2nd ed. California Native Plant Society Press, Sacramento, California.
<http://vegetation.cnps.org/>



Yana Garcia
Secretary for
Environmental Protection



Department of Toxic Substances Control

Meredith Williams, Ph.D.
Director
8800 Cal Center Drive
Sacramento, California 95826-3200



Gavin Newsom
Governor

SENT VIA ELECTRONIC MAIL

November 22, 2022

Mr. Mardy Thomas
Glenn County
225 N Tehama Street
Willows, CA 95988
MThomas@countyofglenn.net

NOTICE OF PREPARATION OF AN ENVIRONMENTAL IMPACT REPORT FOR
GLENN COUNTY GENERAL PLAN UPDATE – DATED OCTOBER 28, 2022
(STATE CLEARINGHOUSE NUMBER: 2022100620)

Dear Mr. Thomas:

The Department of Toxic Substances Control (DTSC) received a Notice of Preparation of an Environmental Impact Report (EIR) for the Glenn County General Plan Update (Project). The Lead Agency is receiving this notice from DTSC because the Project includes one or more of the following: groundbreaking activities, work in close proximity to a roadway, work in close proximity to mining or suspected mining or former mining activities, presence of site buildings that may require demolition or modifications, importation of backfill soil, and/or work on or in close proximity to an agricultural or former agricultural site.

The listing compiled in accordance with California Government Code Section 65962.5, commonly known as the Cortese List, is frequently referenced in General Plan California Environmental Quality Act documents. Not all sites impacted by hazardous waste or hazardous materials will be found on the Cortese List. DTSC recommends that the Hazards and Hazardous Materials section of MND address actions to be taken for any sites impacted by hazardous waste or hazardous materials within the Project area, not just those found on the Cortese List. DTSC recommends consulting with other agencies that may provide oversight to hazardous waste facilities and sites in order to determine a comprehensive listing of all sites impacted by hazardous waste or hazardous materials within the Project area. DTSC hazardous waste facilities and sites with known or suspected contamination issues can be found on DTSC's [EnviroStor](#) data

management system. The [EnviroStor Map](#) feature can be used to locate hazardous waste facilities and sites for a county, city, or a specific address. A search within EnviroStor indicates that numerous hazardous waste facilities and sites are present within the Project's region.

DTSC recommends that the following issues be evaluated in the Hazards and Hazardous Materials section of the MND:

1. A State of California environmental regulatory agency such as DTSC, a Regional Water Quality Control Board (RWQCB), or a local agency that meets the requirements of [Health and Safety Code section 101480](#) should provide regulatory concurrence that Project sites are safe for construction and the proposed use.
2. The MND should acknowledge the potential for historic or future activities on or near Project sites to result in the release of hazardous wastes/substances on Project sites. In instances in which releases have occurred or may occur, further studies should be carried out to delineate the nature and extent of the contamination, and the potential threat to public health and/or the environment should be evaluated. The MND should also identify the mechanism(s) to initiate any required investigation and/or remediation and the government agency who will be responsible for providing appropriate regulatory oversight.
3. Refiners in the United States started adding lead compounds to gasoline in the 1920s in order to boost octane levels and improve engine performance. This practice did not officially end until 1992 when lead was banned as a fuel additive in California. Tailpipe emissions from automobiles using leaded gasoline contained lead and resulted in aerially deposited lead (ADL) being deposited in and along roadways throughout the state. ADL-contaminated soils still exist along roadsides and medians and can also be found underneath some existing road surfaces due to past construction activities. Due to the potential for ADL-contaminated soil, DTSC recommends collecting soil samples for lead analysis prior to performing any intrusive activities for the Project described in the MND.
4. If any sites within the Project area or sites located within the vicinity of the Project have been used or are suspected of having been used for mining activities, proper investigation for mine waste should be discussed in the MND. DTSC recommends that any Project sites with current and/or former mining operations onsite or in the Project area should be evaluated for mine waste according to DTSC's 1998 [Abandoned Mine Land Mines Preliminary Assessment Handbook](#).

5. If buildings or other structures are to be demolished on any project sites included in the proposed project, surveys should be conducted for the presence of lead-based paints or products, mercury, asbestos containing materials, and polychlorinated biphenyl caulk. Removal, demolition and disposal of any of the above-mentioned chemicals should be conducted in compliance with California environmental regulations and policies. In addition, sampling near current and/or former buildings should be conducted in accordance with DTSC's 2006 [Interim Guidance Evaluation of School Sites with Potential Contamination from Lead Based Paint, Termiticides, and Electrical Transformers](#).
6. If any projects initiated as part of the proposed Project require the importation of soil to backfill any excavated areas, proper sampling should be conducted to ensure that the imported soil is free of contamination. DTSC recommends the imported materials be characterized according to DTSC's 2001 [Information Advisory Clean Imported Fill Material](#).
7. If any sites included as part of the proposed Project have been used for agricultural, weed abatement or related activities, proper investigation for organochlorinated pesticides should be discussed in the MND. DTSC recommends the current and former agricultural lands be evaluated in accordance with DTSC's 2008 [Interim Guidance for Sampling Agricultural Properties \(Third Revision\)](#).

DTSC appreciates the opportunity to comment on the MND. Should you choose DTSC to provide oversight for any environmental investigations, please visit DTSC's [Site Mitigation and Restoration Program](#) page to apply for lead agency oversight. Additional information regarding voluntary agreements with DTSC can be found at [DTSC's Brownfield website](#).

If you have any questions, please contact me at (916) 255-3710 or via email at Gavin.McCreary@dtsc.ca.gov.

Sincerely,



Gavin McCreary, M.S.
Project Manager
Site Evaluation and Remediation Unit
Site Mitigation and Restoration Program
Department of Toxic Substances Control

Mr. Mardy Thomas
November 22, 2022
Page 4

cc: (via email)

Governor's Office of Planning and Research
State Clearinghouse
State.Clearinghouse@opr.ca.gov

Mr. Dave Kereazis
Office of Planning & Environmental Analysis
Department of Toxic Substances Control
Dave.Kereazis@dtsc.ca.gov

California Department of Transportation

DISTRICT 3
703 B STREET | MARYSVILLE, CA 95901-5556
(530) 741-4233 | FAX (530) 741-4245 TTY 711
www.dot.ca.gov



November 30, 2022

GTS# 03-GLE-2022-00076

Mardy Thomas
Director
Glenn County Planning & Community Development Services
225 N Tehama Street
Willows, CA 95988

Glenn County General Plan - NOP

Dear Mr. Thomas:

Thank you for including the California Department of Transportation (Caltrans) in the review process for the project referenced above. We reviewed this local development for impacts to the State Highway System (SHS) in keeping with our mission, vision, and goals, some of which include addressing equity, climate change, and safety, as outlined in our statewide plans such as the California Transportation Plan 2050, Caltrans Strategic Plan, and Climate Action Plan for Transportation Infrastructure.

The Glenn County General Plan is a blueprint for growth in County through 2040. The General provides a framework for future growth in the unincorporated areas of the County in the form of goals and policies that designed to facilitate planned growth in an orderly manner.

We will work in partnership on an ongoing basis to address issues such as access management, safety and reducing vehicular miles traveled. In addition, please note the following:

Highway Operations/Traffic Safety

During the development of EIR for Glenn County, please take note of the following concepts with regard to State Routes (SR) 32, SR 45, and 162.

SR 32:

- Per Caltrans TCR, the ultimate facility for SR 32 between SR45 to the Gle/But county line is 4 lane conventional highway and class III bike lanes.
- Per Caltrans TCR, a conceptual project is to realign and widen SR 32 to 4-5 lanes between Orland to But County line.

SR 45:

- Per Caltrans TCR, a project to provide wider shoulder for bicycles and pedestrians on SR 45 between the Col/Gle county line to SR 32.

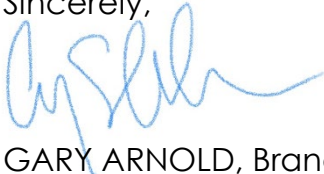
SR 162:

- Per Caltrans TCR, a project to realign, widen and pave the shoulder of SR 162 east of Willows, between First Street to Princeton Codora Canal.
- Per Caltrans TCR, a project to install Class II bike lanes on SR162 east of Willows, between First Street to Princeton Codora Canal.

Please provide our office with copies of any further actions regarding this proposal. We would appreciate the opportunity to review and comment on any changes related to this development.

If you have any questions regarding these comments or require additional information, please contact Sukhi Johal, Local Development Review Coordinator, by phone (530) 565-3885 or via email at sukhi.johal@dot.ca.gov.

Sincerely,



GARY ARNOLD, Branch Chief
Local Development Review, Equity and System Planning
Division of Planning, Local Assistance and Sustainability
Caltrans District 3

NATIVE AMERICAN HERITAGE COMMISSION

October 28, 2022

Mardy Thomas
Glenn County
225 N Tehama Street
Willows, CA 95988

Re: 2022100620, Glenn County General Plan Update Project, Glenn County

Dear Ms. Thomas:

The Native American Heritage Commission (NAHC) has received the Notice of Preparation (NOP), Draft Environmental Impact Report (DEIR) or Early Consultation for the project referenced above. The California Environmental Quality Act (CEQA) (Pub. Resources Code §21000 et seq.), specifically Public Resources Code §21084.1, states that a project that may cause a substantial adverse change in the significance of a historical resource, is a project that may have a significant effect on the environment. (Pub. Resources Code § 21084.1; Cal. Code Regs., tit.14, §15064.5 (b) (CEQA Guidelines §15064.5 (b))). If there is substantial evidence, in light of the whole record before a lead agency, that a project may have a significant effect on the environment, an Environmental Impact Report (EIR) shall be prepared. (Pub. Resources Code §21080 (d); Cal. Code Regs., tit. 14, § 5064 subd.(a)(1) (CEQA Guidelines §15064 (a)(1))). In order to determine whether a project will cause a substantial adverse change in the significance of a historical resource, a lead agency will need to determine whether there are historical resources within the area of potential effect (APE).

CEQA was amended significantly in 2014. Assembly Bill 52 (Gatto, Chapter 532, Statutes of 2014) (AB 52) amended CEQA to create a separate category of cultural resources, "tribal cultural resources" (Pub. Resources Code §21074) and provides that a project with an effect that may cause a substantial adverse change in the significance of a tribal cultural resource is a project that may have a significant effect on the environment. (Pub. Resources Code §21084.2). Public agencies shall, when feasible, avoid damaging effects to any tribal cultural resource. (Pub. Resources Code §21084.3 (a)). **AB 52 applies to any project for which a notice of preparation, a notice of negative declaration, or a mitigated negative declaration is filed on or after July 1, 2015.** If your project involves the adoption of or amendment to a general plan or a specific plan, or the designation or proposed designation of open space, on or after March 1, 2005, it may also be subject to Senate Bill 18 (Burton, Chapter 905, Statutes of 2004) (SB 18). **Both SB 18 and AB 52 have tribal consultation requirements.** If your project is also subject to the federal National Environmental Policy Act (42 U.S.C. § 4321 et seq.) (NEPA), the tribal consultation requirements of Section 106 of the National Historic Preservation Act of 1966 (154 U.S.C. 300101, 36 C.F.R. §800 et seq.) may also apply.

The NAHC recommends consultation with California Native American tribes that are traditionally and culturally affiliated with the geographic area of your proposed project as early as possible in order to avoid inadvertent discoveries of Native American human remains and best protect tribal cultural resources. Below is a brief summary of portions of AB 52 and SB 18 as well as the NAHC's recommendations for conducting cultural resources assessments.

Consult your legal counsel about compliance with AB 52 and SB 18 as well as compliance with any other applicable laws.

[AB 52](#)



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[Vacant]

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[Vacant]

EXECUTIVE SECRETARY
Raymond C. Hitchcock
Miwok/Nisenan

NAHC HEADQUARTERS
1550 Harbor Boulevard
Suite 100
West Sacramento,
California 95691
(916) 373-3710
nahc@nahc.ca.gov
NAHC.ca.gov



AB 52 has added to CEQA the additional requirements listed below, along with many other requirements:

1. Fourteen Day Period to Provide Notice of Completion of an Application/Decision to Undertake a Project:

Within fourteen (14) days of determining that an application for a project is complete or of a decision by a public agency to undertake a project, a lead agency shall provide formal notification to a designated contact of, or tribal representative of, traditionally and culturally affiliated California Native American tribes that have requested notice, to be accomplished by at least one written notice that includes:

- a. A brief description of the project.
- b. The lead agency contact information.
- c. Notification that the California Native American tribe has 30 days to request consultation. (Pub. Resources Code §21080.3.1 (d)).
- d. A "California Native American tribe" is defined as a Native American tribe located in California that is on the contact list maintained by the NAHC for the purposes of Chapter 905 of Statutes of 2004 (SB 18). (Pub. Resources Code §21073).

2. Begin Consultation Within 30 Days of Receiving a Tribe's Request for Consultation and Before Releasing a Negative Declaration, Mitigated Negative Declaration, or Environmental Impact Report: A lead agency shall begin the consultation process within 30 days of receiving a request for consultation from a California Native American tribe that is traditionally and culturally affiliated with the geographic area of the proposed project. (Pub. Resources Code §21080.3.1, subs. (d) and (e)) and prior to the release of a negative declaration, mitigated negative declaration or Environmental Impact Report. (Pub. Resources Code §21080.3.1 (b)).

- a. For purposes of AB 52, "consultation shall have the same meaning as provided in Gov. Code §65352.4 (SB 18). (Pub. Resources Code §21080.3.1 (b)).

3. Mandatory Topics of Consultation If Requested by a Tribe: The following topics of consultation, if a tribe requests to discuss them, are mandatory topics of consultation:

- a. Alternatives to the project.
- b. Recommended mitigation measures.
- c. Significant effects. (Pub. Resources Code §21080.3.2 (a)).

4. Discretionary Topics of Consultation: The following topics are discretionary topics of consultation:

- a. Type of environmental review necessary.
- b. Significance of the tribal cultural resources.
- c. Significance of the project's impacts on tribal cultural resources.
- d. If necessary, project alternatives or appropriate measures for preservation or mitigation that the tribe may recommend to the lead agency. (Pub. Resources Code §21080.3.2 (a)).

5. Confidentiality of Information Submitted by a Tribe During the Environmental Review Process: With some exceptions, any information, including but not limited to, the location, description, and use of tribal cultural resources submitted by a California Native American tribe during the environmental review process shall not be included in the environmental document or otherwise disclosed by the lead agency or any other public agency to the public, consistent with Government Code §6254 (r) and §6254.10. Any information submitted by a California Native American tribe during the consultation or environmental review process shall be published in a confidential appendix to the environmental document unless the tribe that provided the information consents, in writing, to the disclosure of some or all of the information to the public. (Pub. Resources Code §21082.3 (c)(1)).

6. Discussion of Impacts to Tribal Cultural Resources in the Environmental Document: If a project may have a significant impact on a tribal cultural resource, the lead agency's environmental document shall discuss both of the following:

- a. Whether the proposed project has a significant impact on an identified tribal cultural resource.
- b. Whether feasible alternatives or mitigation measures, including those measures that may be agreed to pursuant to Public Resources Code §21082.3, subdivision (a), avoid or substantially lessen the impact on the identified tribal cultural resource. (Pub. Resources Code §21082.3 (b)).

- 7. Conclusion of Consultation:** Consultation with a tribe shall be considered concluded when either of the following occurs:
- a.** The parties agree to measures to mitigate or avoid a significant effect, if a significant effect exists, on a tribal cultural resource; or
 - b.** A party, acting in good faith and after reasonable effort, concludes that mutual agreement cannot be reached. (Pub. Resources Code §21080.3.2 (b)).
- 8. Recommending Mitigation Measures Agreed Upon in Consultation in the Environmental Document:** Any mitigation measures agreed upon in the consultation conducted pursuant to Public Resources Code §21080.3.2 shall be recommended for inclusion in the environmental document and in an adopted mitigation monitoring and reporting program, if determined to avoid or lessen the impact pursuant to Public Resources Code §21082.3, subdivision (b), paragraph 2, and shall be fully enforceable. (Pub. Resources Code §21082.3 (a)).
- 9. Required Consideration of Feasible Mitigation:** If mitigation measures recommended by the staff of the lead agency as a result of the consultation process are not included in the environmental document or if there are no agreed upon mitigation measures at the conclusion of consultation, or if consultation does not occur, and if substantial evidence demonstrates that a project will cause a significant effect to a tribal cultural resource, the lead agency shall consider feasible mitigation pursuant to Public Resources Code §21084.3 (b). (Pub. Resources Code §21082.3 (e)).
- 10. Examples of Mitigation Measures That, If Feasible, May Be Considered to Avoid or Minimize Significant Adverse Impacts to Tribal Cultural Resources:**
- a.** Avoidance and preservation of the resources in place, including, but not limited to:
 - i.** Planning and construction to avoid the resources and protect the cultural and natural context.
 - ii.** Planning greenspace, parks, or other open space, to incorporate the resources with culturally appropriate protection and management criteria.
 - b.** Treating the resource with culturally appropriate dignity, taking into account the tribal cultural values and meaning of the resource, including, but not limited to, the following:
 - i.** Protecting the cultural character and integrity of the resource.
 - ii.** Protecting the traditional use of the resource.
 - iii.** Protecting the confidentiality of the resource.
 - c.** Permanent conservation easements or other interests in real property, with culturally appropriate management criteria for the purposes of preserving or utilizing the resources or places.
 - d.** Protecting the resource. (Pub. Resource Code §21084.3 (b)).
 - e.** Please note that a federally recognized California Native American tribe or a non-federally recognized California Native American tribe that is on the contact list maintained by the NAHC to protect a California prehistoric, archaeological, cultural, spiritual, or ceremonial place may acquire and hold conservation easements if the conservation easement is voluntarily conveyed. (Civ. Code §815.3 (c)).
 - f.** Please note that it is the policy of the state that Native American remains and associated grave artifacts shall be repatriated. (Pub. Resources Code §5097.991).
- 11. Prerequisites for Certifying an Environmental Impact Report or Adopting a Mitigated Negative Declaration or Negative Declaration with a Significant Impact on an Identified Tribal Cultural Resource:** An Environmental Impact Report may not be certified, nor may a mitigated negative declaration or a negative declaration be adopted unless one of the following occurs:
- a.** The consultation process between the tribes and the lead agency has occurred as provided in Public Resources Code §21080.3.1 and §21080.3.2 and concluded pursuant to Public Resources Code §21080.3.2.
 - b.** The tribe that requested consultation failed to provide comments to the lead agency or otherwise failed to engage in the consultation process.
 - c.** The lead agency provided notice of the project to the tribe in compliance with Public Resources Code §21080.3.1 (d) and the tribe failed to request consultation within 30 days. (Pub. Resources Code §21082.3 (d)).

The NAHC's PowerPoint presentation titled, "Tribal Consultation Under AB 52: Requirements and Best Practices" may be found online at: http://nahc.ca.gov/wp-content/uploads/2015/10/AB52TribalConsultation_CalEPAPDF.pdf

SB 18

SB 18 applies to local governments and requires local governments to contact, provide notice to, refer plans to, and consult with tribes prior to the adoption or amendment of a general plan or a specific plan, or the designation of open space. (Gov. Code §65352.3). Local governments should consult the Governor's Office of Planning and Research's "Tribal Consultation Guidelines," which can be found online at: https://www.opr.ca.gov/docs/09_14_05_Updated_Guidelines_922.pdf.

Some of SB 18's provisions include:

1. **Tribal Consultation**: If a local government considers a proposal to adopt or amend a general plan or a specific plan, or to designate open space it is required to contact the appropriate tribes identified by the NAHC by requesting a "Tribal Consultation List." If a tribe, once contacted, requests consultation the local government must consult with the tribe on the plan proposal. **A tribe has 90 days from the date of receipt of notification to request consultation unless a shorter timeframe has been agreed to by the tribe.** (Gov. Code §65352.3 (a)(2)).
2. **No Statutory Time Limit on SB 18 Tribal Consultation**. There is no statutory time limit on SB 18 tribal consultation.
3. **Confidentiality**: Consistent with the guidelines developed and adopted by the Office of Planning and Research pursuant to Gov. Code §65040.2, the city or county shall protect the confidentiality of the information concerning the specific identity, location, character, and use of places, features and objects described in Public Resources Code §5097.9 and §5097.993 that are within the city's or county's jurisdiction. (Gov. Code §65352.3 (b)).
4. **Conclusion of SB 18 Tribal Consultation**: Consultation should be concluded at the point in which:
 - a. The parties to the consultation come to a mutual agreement concerning the appropriate measures for preservation or mitigation; or
 - b. Either the local government or the tribe, acting in good faith and after reasonable effort, concludes that mutual agreement cannot be reached concerning the appropriate measures of preservation or mitigation. (Tribal Consultation Guidelines, Governor's Office of Planning and Research (2005) at p. 18).

Agencies should be aware that neither AB 52 nor SB 18 precludes agencies from initiating tribal consultation with tribes that are traditionally and culturally affiliated with their jurisdictions before the timeframes provided in AB 52 and SB 18. For that reason, we urge you to continue to request Native American Tribal Contact Lists and "Sacred Lands File" searches from the NAHC. The request forms can be found online at: <http://nahc.ca.gov/resources/forms/>.

NAHC Recommendations for Cultural Resources Assessments

To adequately assess the existence and significance of tribal cultural resources and plan for avoidance, preservation in place, or barring both, mitigation of project-related impacts to tribal cultural resources, the NAHC recommends the following actions:

1. Contact the appropriate regional California Historical Research Information System (CHRIS) Center (https://ohp.parks.ca.gov/?page_id=30331) for an archaeological records search. The records search will determine:
 - a. If part or all of the APE has been previously surveyed for cultural resources.
 - b. If any known cultural resources have already been recorded on or adjacent to the APE.
 - c. If the probability is low, moderate, or high that cultural resources are located in the APE.
 - d. If a survey is required to determine whether previously unrecorded cultural resources are present.
2. If an archaeological inventory survey is required, the final stage is the preparation of a professional report detailing the findings and recommendations of the records search and field survey.
 - a. The final report containing site forms, site significance, and mitigation measures should be submitted immediately to the planning department. All information regarding site locations, Native American human remains, and associated funerary objects should be in a separate confidential addendum and not be made available for public disclosure.
 - b. The final written report should be submitted within 3 months after work has been completed to the appropriate regional CHRIS center.

3. Contact the NAHC for:
 - a. A Sacred Lands File search. Remember that tribes do not always record their sacred sites in the Sacred Lands File, nor are they required to do so. A Sacred Lands File search is not a substitute for consultation with tribes that are traditionally and culturally affiliated with the geographic area of the project's APE.
 - b. A Native American Tribal Consultation List of appropriate tribes for consultation concerning the project site and to assist in planning for avoidance, preservation in place, or, failing both, mitigation measures.

4. Remember that the lack of surface evidence of archaeological resources (including tribal cultural resources) does not preclude their subsurface existence.
 - a. Lead agencies should include in their mitigation and monitoring reporting program plan provisions for the identification and evaluation of inadvertently discovered archaeological resources per Cal. Code Regs., tit. 14, §15064.5(f) (CEQA Guidelines §15064.5(f)). In areas of identified archaeological sensitivity, a certified archaeologist and a culturally affiliated Native American with knowledge of cultural resources should monitor all ground-disturbing activities.
 - b. Lead agencies should include in their mitigation and monitoring reporting program plans provisions for the disposition of recovered cultural items that are not burial associated in consultation with culturally affiliated Native Americans.
 - c. Lead agencies should include in their mitigation and monitoring reporting program plans provisions for the treatment and disposition of inadvertently discovered Native American human remains. Health and Safety Code §7050.5, Public Resources Code §5097.98, and Cal. Code Regs., tit. 14, §15064.5, subdivisions (d) and (e) (CEQA Guidelines §15064.5, subds. (d) and (e)) address the processes to be followed in the event of an inadvertent discovery of any Native American human remains and associated grave goods in a location other than a dedicated cemetery.

If you have any questions or need additional information, please contact me at my email address:
Cameron.Vela@nahc.ca.gov.

Sincerely,

Cameron Vela

Cameron Vela
Cultural Resources Analyst

cc: State Clearinghouse

Appendix B

Continuous and Short-Term Ambient Noise Measurement Results

Appendix B: Continuous and Short-Term Ambient Noise Measurement Results



Appendix B1: Continuous Noise Monitoring Results

Date	Time	Measured Level, dBA			
		L _{eq}	L _{max}	L ₅₀	L ₉₀
Thursday, July 18, 2019	15:00	63	84	50	49
Thursday, July 18, 2019	16:00	61	83	50	49
Thursday, July 18, 2019	17:00	61	86	50	49
Thursday, July 18, 2019	18:00	62	88	49	48
Thursday, July 18, 2019	19:00	61	83	49	48
Thursday, July 18, 2019	20:00	60	83	49	48
Thursday, July 18, 2019	21:00	60	82	50	48
Thursday, July 18, 2019	22:00	56	78	49	48
Thursday, July 18, 2019	23:00	57	83	49	48
Friday, July 19, 2019	0:00	50	71	50	49
Friday, July 19, 2019	1:00	51	73	50	50
Friday, July 19, 2019	2:00	52	75	51	50
Friday, July 19, 2019	3:00	54	79	51	50
Friday, July 19, 2019	4:00	56	84	51	51
Friday, July 19, 2019	5:00	61	83	52	51
Friday, July 19, 2019	6:00	62	88	52	51
Friday, July 19, 2019	7:00	64	85	52	51
Friday, July 19, 2019	8:00	63	87	52	51
Friday, July 19, 2019	9:00	63	86	51	50
Friday, July 19, 2019	10:00	63	83	51	50
Friday, July 19, 2019	11:00	62	85	50	49
Friday, July 19, 2019	12:00	62	85	50	49
Friday, July 19, 2019	13:00	62	82	50	49
Friday, July 19, 2019	14:00	63	84	50	49

Statistics	64.02	82.7	49.7	48.46
Day Average	62	84	50	49
Night Average	58	79	50	50
Day Low	60	82	49	48
Day High	64	88	52	51
Night Low	50	71	49	48
Night High	62	88	52	51
Ldn	65	Day %	83	
CNEL	65	Night %	17	

Site: LT-1

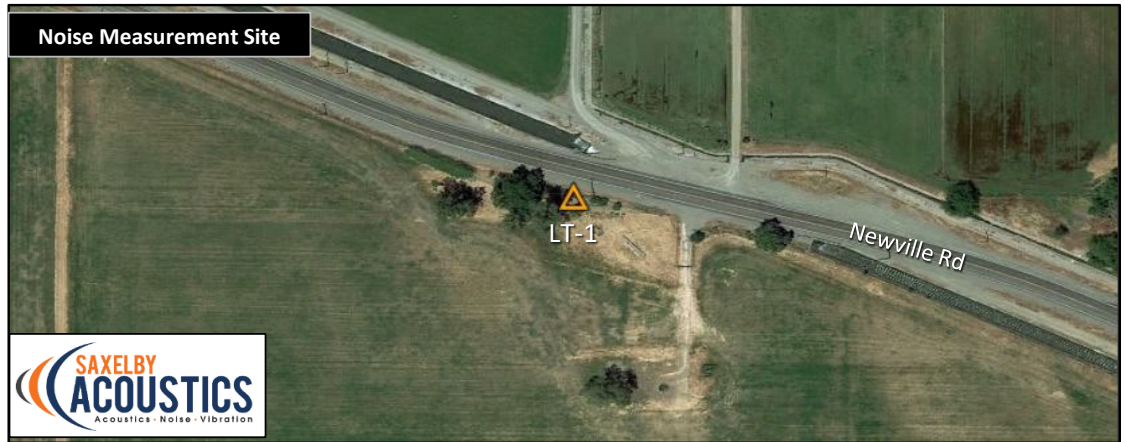
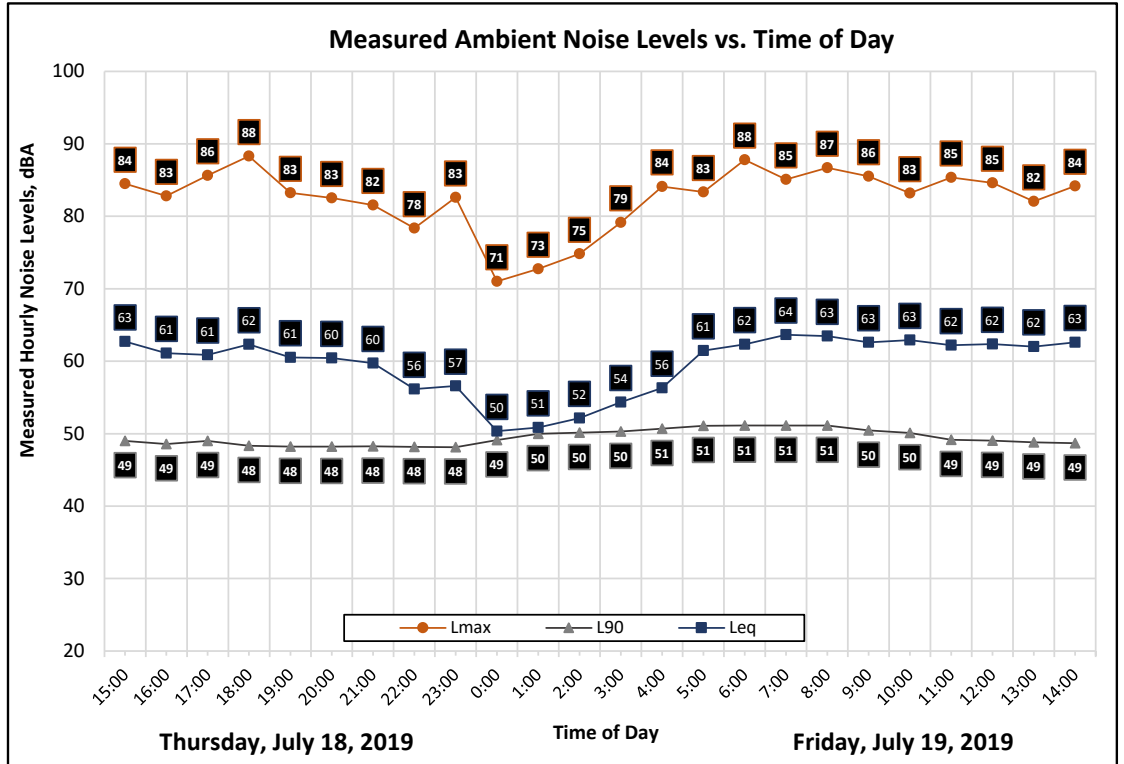
Project: Glenn County General Report

Meter: LDL 820-1

Location: Road 200 - Northern Glenn County

Calibrator: CAL200

Coordinates: 39.7697136°, -122.2571388°

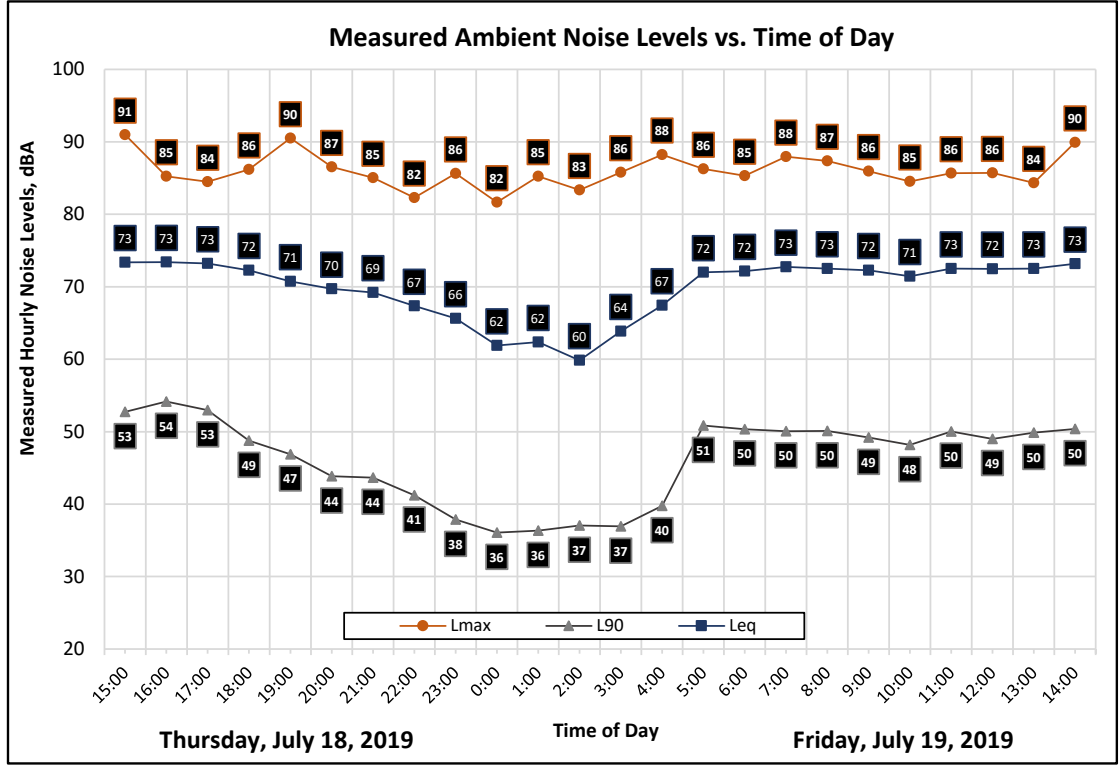


Appendix B2: Continuous Noise Monitoring Results

Date	Time	Measured Level, dBA			
		L _{eq}	L _{max}	L ₅₀	L ₉₀
Thursday, July 18, 2019	15:00	73	91	71	53
Thursday, July 18, 2019	16:00	73	85	71	54
Thursday, July 18, 2019	17:00	73	84	71	53
Thursday, July 18, 2019	18:00	72	86	68	49
Thursday, July 18, 2019	19:00	71	90	61	47
Thursday, July 18, 2019	20:00	70	87	59	44
Thursday, July 18, 2019	21:00	69	85	58	44
Thursday, July 18, 2019	22:00	67	82	50	41
Thursday, July 18, 2019	23:00	66	86	45	38
Friday, July 19, 2019	0:00	62	82	39	36
Friday, July 19, 2019	1:00	62	85	39	36
Friday, July 19, 2019	2:00	60	83	38	37
Friday, July 19, 2019	3:00	64	86	40	37
Friday, July 19, 2019	4:00	67	88	50	40
Friday, July 19, 2019	5:00	72	86	65	51
Friday, July 19, 2019	6:00	72	85	65	50
Friday, July 19, 2019	7:00	73	88	68	50
Friday, July 19, 2019	8:00	73	87	67	50
Friday, July 19, 2019	9:00	72	86	67	49
Friday, July 19, 2019	10:00	71	85	66	48
Friday, July 19, 2019	11:00	73	86	68	50
Friday, July 19, 2019	12:00	72	86	68	49
Friday, July 19, 2019	13:00	73	84	69	50
Friday, July 19, 2019	14:00	73	90	69	50

Statistics	Leq	Lmax	L50	L90
Day Average	72	87	67	49
Night Average	68	85	48	41
Day Low	69	84	58	44
Day High	73	91	71	54
Night Low	60	82	38	36
Night High	72	88	65	51
Ldn	75	Day %		83
CNEL	75	Night %		17

Site: LT-2
 Project: Glenn County General Report
 Location: Road 32 – Northern Glenn County
 Coordinates: 39.747119°, -122.155564°
 Meter: LDL 820-2
 Calibrator: CAL200



Appendix B3: Continuous Noise Monitoring Results

Site: LT-3

Project: Glenn County General Report

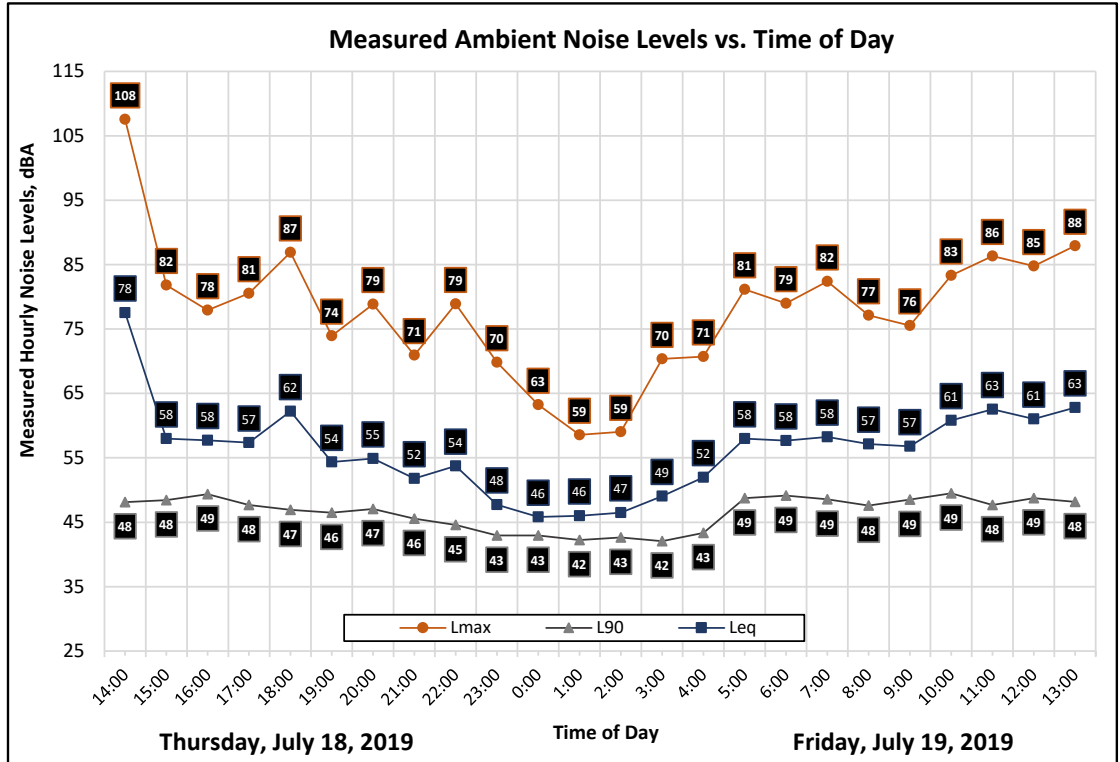
Meter: LDL 812-1

Location: Artois Feed

Calibrator: CAL200

Coordinates: 39.6243271°, -122.1941072°

Date	Time	Measured Level, dBA			
		L _{eq}	L _{max}	L ₅₀	L ₉₀
Thursday, July 18, 2019	14:00	78	108	53	48
Thursday, July 18, 2019	15:00	58	82	53	48
Thursday, July 18, 2019	16:00	58	78	53	49
Thursday, July 18, 2019	17:00	57	81	52	48
Thursday, July 18, 2019	18:00	62	87	52	47
Thursday, July 18, 2019	19:00	54	74	50	46
Thursday, July 18, 2019	20:00	55	79	50	47
Thursday, July 18, 2019	21:00	52	71	48	46
Thursday, July 18, 2019	22:00	54	79	48	45
Thursday, July 18, 2019	23:00	48	70	45	43
Friday, July 19, 2019	0:00	46	63	45	43
Friday, July 19, 2019	1:00	46	59	45	42
Friday, July 19, 2019	2:00	47	59	45	43
Friday, July 19, 2019	3:00	49	70	44	42
Friday, July 19, 2019	4:00	52	71	47	43
Friday, July 19, 2019	5:00	58	81	53	49
Friday, July 19, 2019	6:00	58	79	52	49
Friday, July 19, 2019	7:00	58	82	52	49
Friday, July 19, 2019	8:00	57	77	51	48
Friday, July 19, 2019	9:00	57	76	52	49
Friday, July 19, 2019	10:00	61	83	53	49
Friday, July 19, 2019	11:00	63	86	52	48
Friday, July 19, 2019	12:00	61	85	54	49
Friday, July 19, 2019	13:00	63	88	52	48



Statistics	Leq	Lmax	L50	L90
Day Average	67	82	52	48
Night Average	53	70	47	44
Day Low	52	71	48	46
Day High	78	108	54	49
Night Low	46	59	44	42
Night High	58	81	53	49
L _{dn}	66	Day %		97
CNEL	66	Night %		3



Appendix B4: Continuous Noise Monitoring Results

Site: LT-4

Project: Glenn County General Report

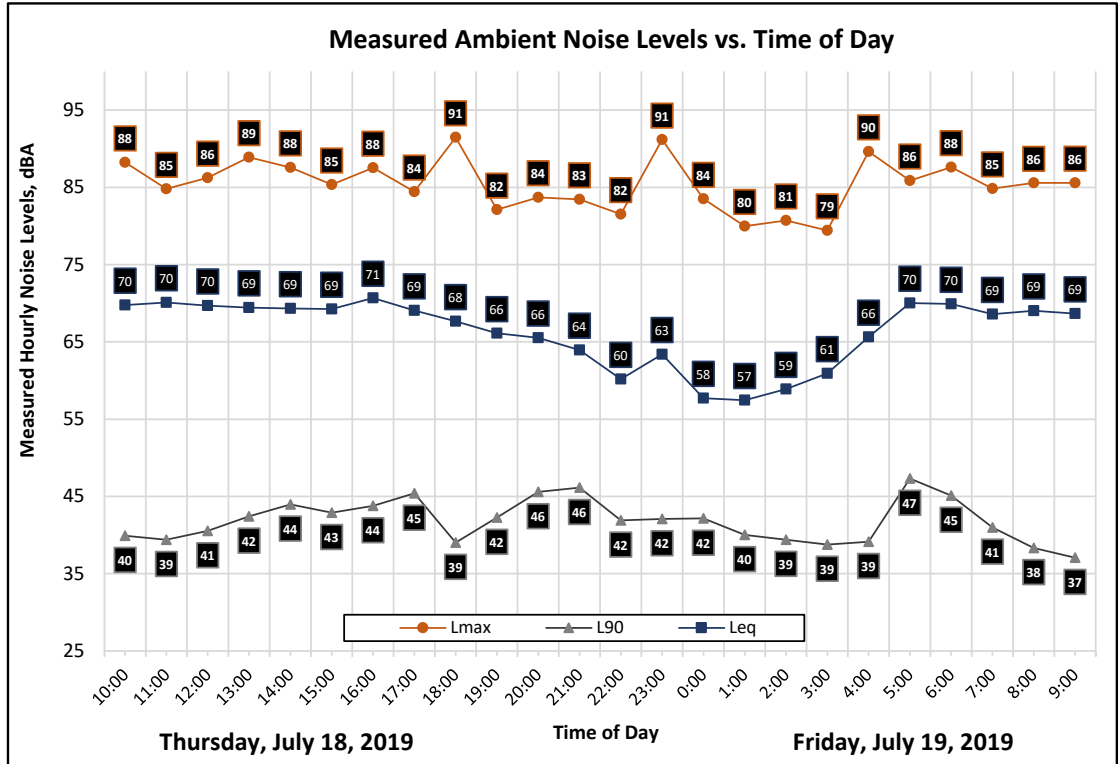
Meter: LDL 812-1

Location: Willows - Hwy 162

Calibrator: CAL200

Coordinates: 39.5241597°, -122.2228089°

Date	Time	Measured Level, dBA			
		L _{eq}	L _{max}	L ₅₀	L ₉₀
Thursday, July 18, 2019	10:00	70	88	53	40
Thursday, July 18, 2019	11:00	70	85	56	39
Thursday, July 18, 2019	12:00	70	86	54	41
Thursday, July 18, 2019	13:00	69	89	53	42
Thursday, July 18, 2019	14:00	69	88	55	44
Thursday, July 18, 2019	15:00	69	85	55	43
Thursday, July 18, 2019	16:00	71	88	58	44
Thursday, July 18, 2019	17:00	69	84	53	45
Thursday, July 18, 2019	18:00	68	91	46	39
Thursday, July 18, 2019	19:00	66	82	47	42
Thursday, July 18, 2019	20:00	66	84	50	46
Thursday, July 18, 2019	21:00	64	83	50	46
Thursday, July 18, 2019	22:00	60	82	45	42
Thursday, July 18, 2019	23:00	63	91	44	42
Friday, July 19, 2019	0:00	58	84	44	42
Friday, July 19, 2019	1:00	57	80	42	40
Friday, July 19, 2019	2:00	59	81	42	39
Friday, July 19, 2019	3:00	61	79	43	39
Friday, July 19, 2019	4:00	66	90	45	39
Friday, July 19, 2019	5:00	70	86	61	47
Friday, July 19, 2019	6:00	70	88	57	45
Friday, July 19, 2019	7:00	69	85	51	41
Friday, July 19, 2019	8:00	69	86	51	38
Friday, July 19, 2019	9:00	69	86	51	37



Statistics	Leq	Lmax	L50	L90
Day Average	69	86	52	42
Night Average	65	84	47	42
Day Low	64	82	46	37
Day High	71	91	58	46
Night Low	57	79	42	39
Night High	70	91	61	47
Ldn	72	Day %		79
CNEL	73	Night %		21

Appendix B5: Continuous Noise Monitoring Results

Site: LT-5

Project: Glenn County General Report

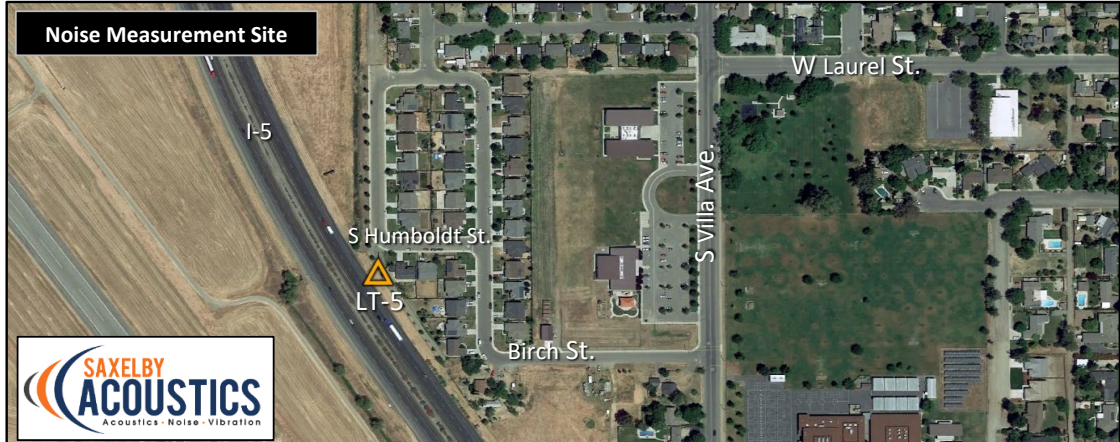
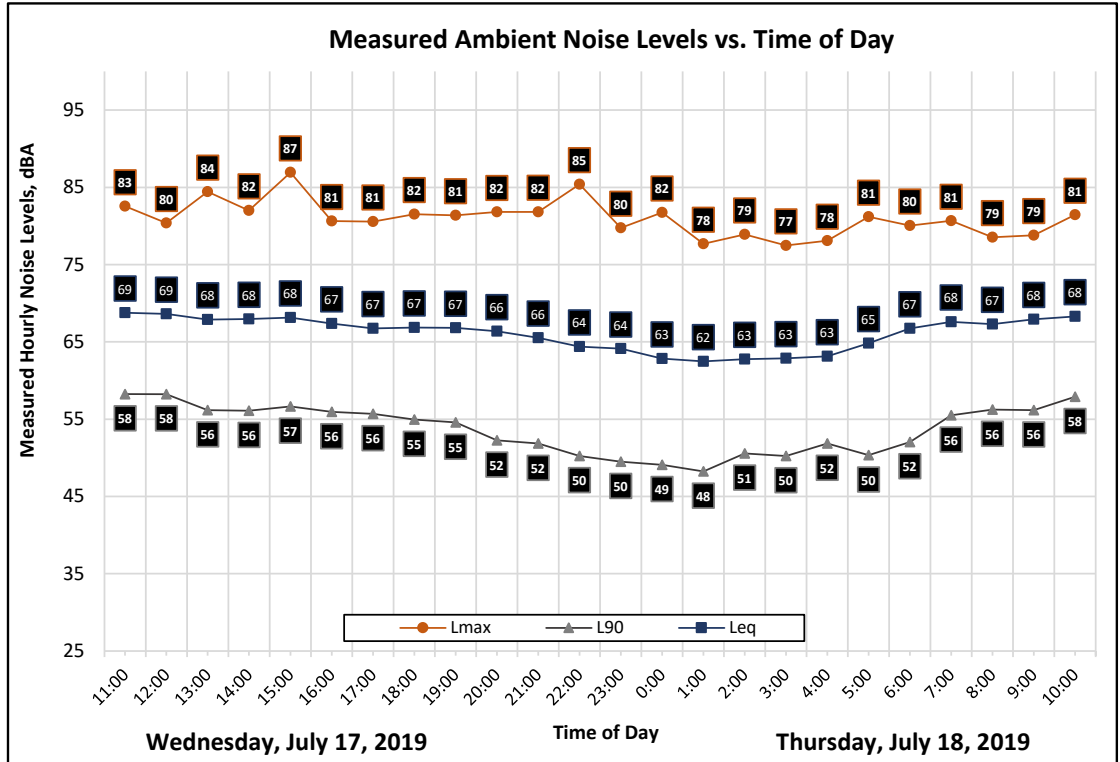
Meter: LDL 820-2

Location: South Humboldt Ave. at I-5

Calibrator: CAL200

Coordinates: 39.5161053°, -122.2120800°

Date	Time	Measured Level, dBA			
		L _{eq}	L _{max}	L ₅₀	L ₉₀
Wednesday, July 17, 2019	11:00	69	83	66	58
Wednesday, July 17, 2019	12:00	69	80	66	58
Wednesday, July 17, 2019	13:00	68	84	65	56
Wednesday, July 17, 2019	14:00	68	82	65	56
Wednesday, July 17, 2019	15:00	68	87	65	57
Wednesday, July 17, 2019	16:00	67	81	64	56
Wednesday, July 17, 2019	17:00	67	81	63	56
Wednesday, July 17, 2019	18:00	67	82	64	55
Wednesday, July 17, 2019	19:00	67	81	63	55
Wednesday, July 17, 2019	20:00	66	82	63	52
Wednesday, July 17, 2019	21:00	66	82	61	52
Wednesday, July 17, 2019	22:00	64	85	59	50
Wednesday, July 17, 2019	23:00	64	80	58	50
Thursday, July 18, 2019	0:00	63	82	55	49
Thursday, July 18, 2019	1:00	62	78	53	48
Thursday, July 18, 2019	2:00	63	79	56	51
Thursday, July 18, 2019	3:00	63	77	56	50
Thursday, July 18, 2019	4:00	63	78	58	52
Thursday, July 18, 2019	5:00	65	81	60	50
Thursday, July 18, 2019	6:00	67	80	63	52
Thursday, July 18, 2019	7:00	68	81	65	56
Thursday, July 18, 2019	8:00	67	79	65	56
Thursday, July 18, 2019	9:00	68	79	65	56
Thursday, July 18, 2019	10:00	68	81	65	58



Statistics	Leq	L _{max}	L ₅₀	L ₉₀
Day Average	68	82	64	56
Night Average	64	80	58	50
Day Low	66	79	61	52
Day High	69	87	66	58
Night Low	62	77	53	48
Night High	67	85	63	52
L _{dn}	71	Day %	79	
CNEL	72	Night %	21	



Appendix B6: Continuous Noise Monitoring Results

Site: LT-6

Project: Glenn County General Report

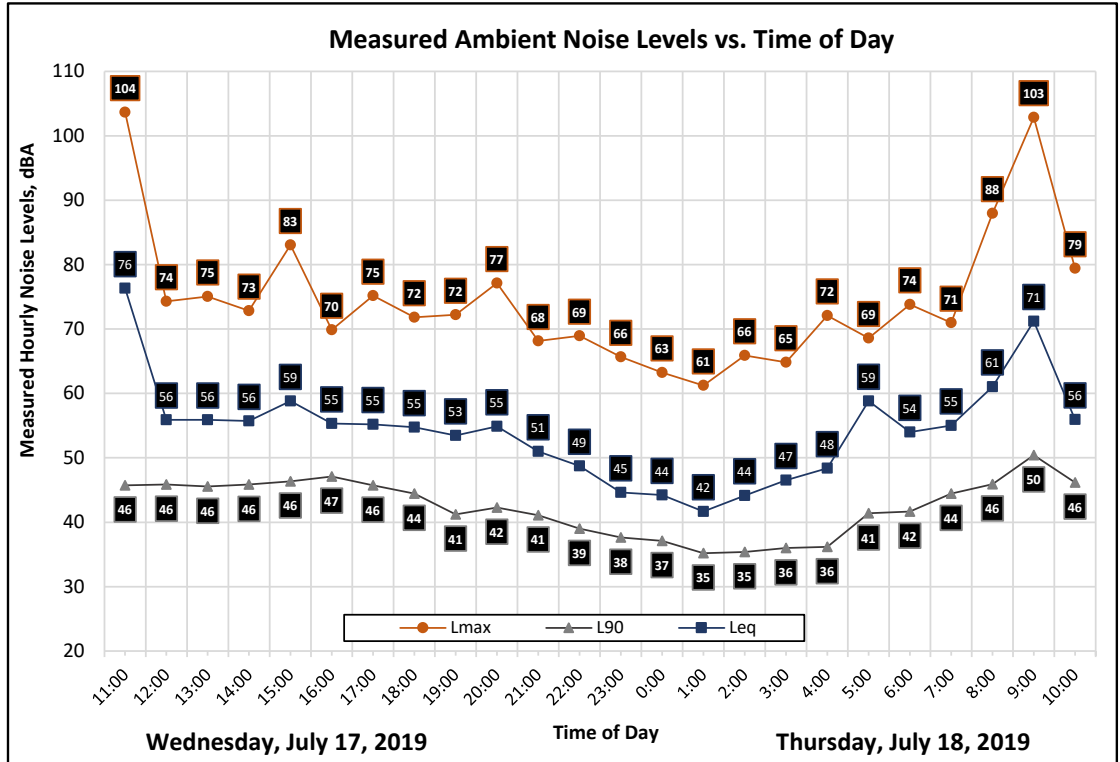
Meter: LDL 820-1

Location: Willows - Railroad

Calibrator: CAL200

Coordinates: 39.5217578°, -122.1933374°

Date	Time	Measured Level, dBA			
		L _{eq}	L _{max}	L ₅₀	L ₉₀
Wednesday, July 17, 2019	11:00	76	104	53	46
Wednesday, July 17, 2019	12:00	56	74	53	46
Wednesday, July 17, 2019	13:00	56	75	52	46
Wednesday, July 17, 2019	14:00	56	73	52	46
Wednesday, July 17, 2019	15:00	59	83	53	46
Wednesday, July 17, 2019	16:00	55	70	53	47
Wednesday, July 17, 2019	17:00	55	75	52	46
Wednesday, July 17, 2019	18:00	55	72	51	44
Wednesday, July 17, 2019	19:00	53	72	49	41
Wednesday, July 17, 2019	20:00	55	77	50	42
Wednesday, July 17, 2019	21:00	51	68	44	41
Wednesday, July 17, 2019	22:00	49	69	42	39
Wednesday, July 17, 2019	23:00	45	66	40	38
Thursday, July 18, 2019	0:00	44	63	40	37
Thursday, July 18, 2019	1:00	42	61	37	35
Thursday, July 18, 2019	2:00	44	66	38	35
Thursday, July 18, 2019	3:00	47	65	38	36
Thursday, July 18, 2019	4:00	48	72	39	36
Thursday, July 18, 2019	5:00	59	69	55	41
Thursday, July 18, 2019	6:00	54	74	48	42
Thursday, July 18, 2019	7:00	55	71	51	44
Thursday, July 18, 2019	8:00	61	88	53	46
Thursday, July 18, 2019	9:00	71	103	56	50
Thursday, July 18, 2019	10:00	56	79	53	46



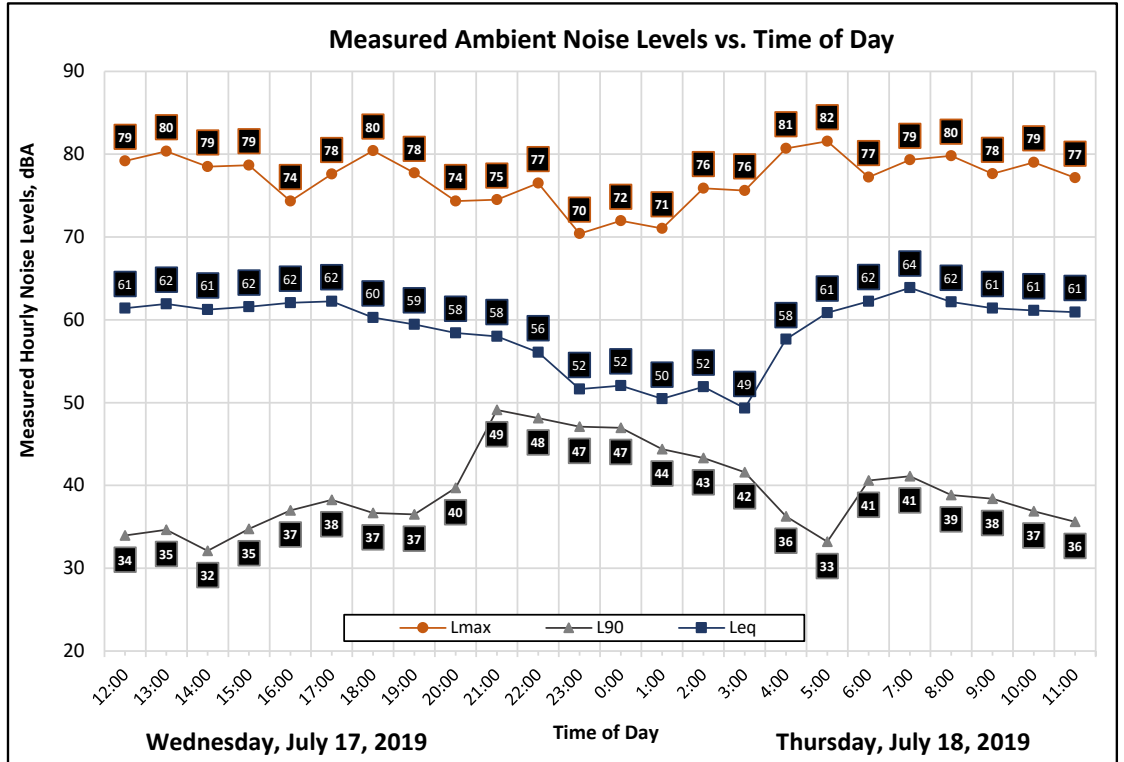
Statistics	Leq	Lmax	L50	L90
Day Average	66	79	52	45
Night Average	52	67	42	38
Day Low	51	68	44	41
Day High	76	104	56	50
Night Low	42	61	37	35
Night High	59	74	55	42
Ldn	65	Day %		98
CNEL	65	Night %		2

Appendix B7: Continuous Noise Monitoring Results

Date	Time	Measured Level, dBA			
		L _{eq}	L _{max}	L ₅₀	L ₉₀
Wednesday, July 17, 2019	12:00	61	79	44	34
Wednesday, July 17, 2019	13:00	62	80	45	35
Wednesday, July 17, 2019	14:00	61	79	43	32
Wednesday, July 17, 2019	15:00	62	79	47	35
Wednesday, July 17, 2019	16:00	62	74	52	37
Wednesday, July 17, 2019	17:00	62	78	51	38
Wednesday, July 17, 2019	18:00	60	80	45	37
Wednesday, July 17, 2019	19:00	59	78	44	37
Wednesday, July 17, 2019	20:00	58	74	46	40
Wednesday, July 17, 2019	21:00	58	75	51	49
Wednesday, July 17, 2019	22:00	56	77	49	48
Wednesday, July 17, 2019	23:00	52	70	48	47
Thursday, July 18, 2019	0:00	52	72	48	47
Thursday, July 18, 2019	1:00	50	71	46	44
Thursday, July 18, 2019	2:00	52	76	45	43
Thursday, July 18, 2019	3:00	49	76	43	42
Thursday, July 18, 2019	4:00	58	81	40	36
Thursday, July 18, 2019	5:00	61	82	47	33
Thursday, July 18, 2019	6:00	62	77	49	41
Thursday, July 18, 2019	7:00	64	79	53	41
Thursday, July 18, 2019	8:00	62	80	48	39
Thursday, July 18, 2019	9:00	61	78	45	38
Thursday, July 18, 2019	10:00	61	79	44	37
Thursday, July 18, 2019	11:00	61	77	44	36

Statistics	Leq	Lmax	L50	L90
Day Average	61	78	47	38
Night Average	57	76	46	42
Day Low	58	74	43	32
Day High	64	80	53	49
Night Low	49	70	40	33
Night High	62	82	49	48
Ldn	64	Day %		82
CNEL	65	Night %		18

Site: LT-7
 Project: Glenn County General Report
 Location: Glenn County - Hwy 162
 Coordinates: 39.5216854°, -122.0258019°
 Meter: LDL 812-2
 Calibrator: CAL200



Appendix B8 : Short Term Noise Monitoring Results

Site: ST-1

Project: Glenn County General Report

Meter: LDL 831-1

Location: Elk Creek High School

Calibrator: CAL200

Coordinates: 39.6066434° -122.5382913°

Start: 2019-07-17 12:39:25

Stop: 2019-07-17 12:49:25

SLM: Model 831

Serial: 1329

Measurement Results, dBA

Duration: 0:10

L_{eq}: 50

L_{max}: 68

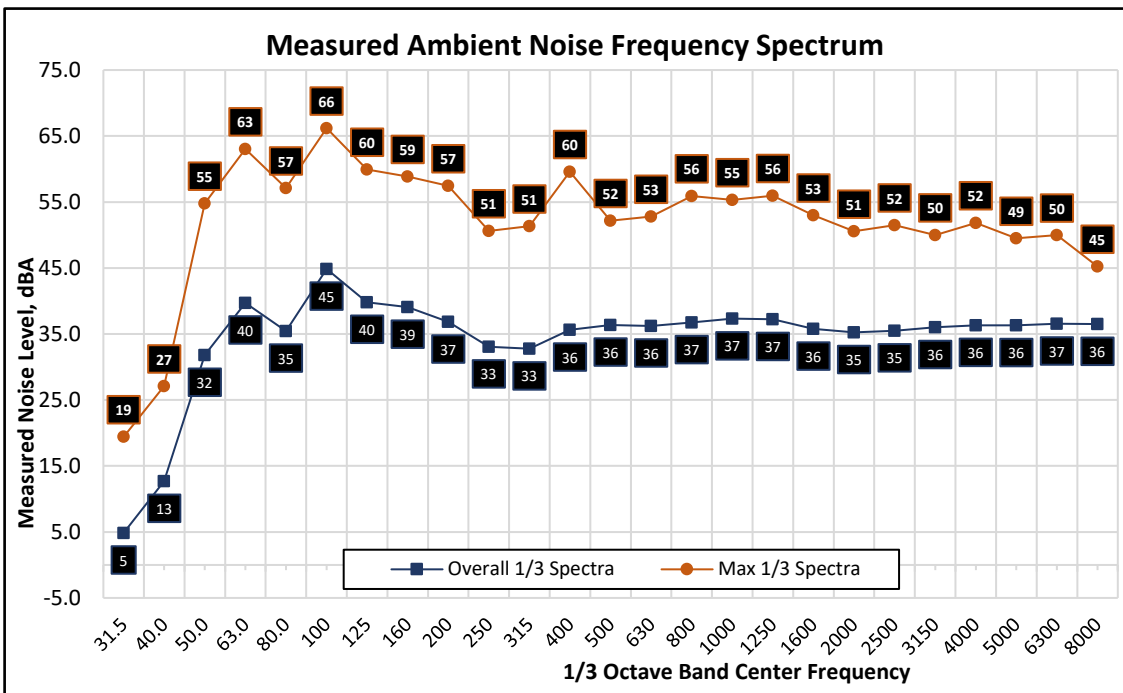
L_{min}: 37

L₅₀: 42

L₉₀: 40

Notes

Primary noise source is traffic on Sanhedrin Blvd. Secondary noise source includes HVAC noise from Elk Creek High School. Lmax caused by passing autos.



Appendix B9 : Short Term Noise Monitoring Results

Site: ST-2

Project: Glenn County General Report

Meter: LDL 831-1

Location: Thunderhill Raceway Park

Calibrator: CAL200

Coordinates: 39.5321662° -122.3408009°

Start: 2019-07-17 13:15:43

Stop: 2019-07-17 13:25:43

SLM: Model 831

Serial: 1329

Measurement Results, dBA

Duration: 0:10

L_{eq} : 63

L_{max} : 80

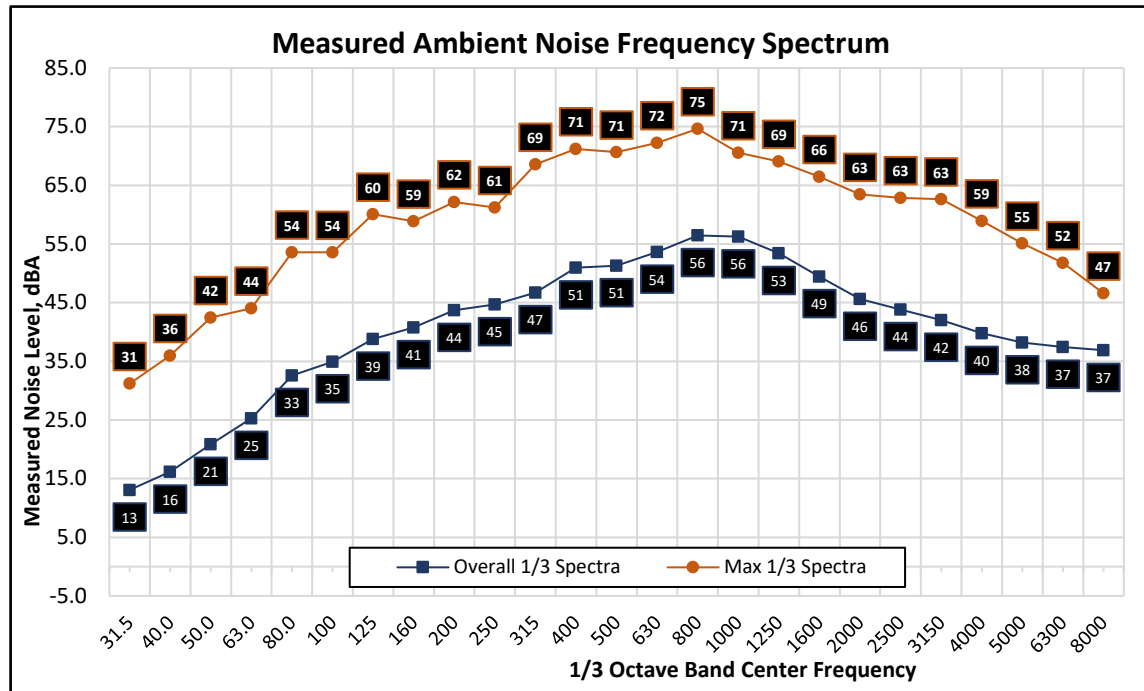
L_{min} : 24

L_{50} : 39

L_{90} : 30

Notes

Primary noise source is traffic on Highway 162. Secondary noise source is activity from Thunderhill Raceway Park. L_{max} caused by passing heavy trucks.



Appendix B10 : Short Term Noise Monitoring Results

Site: ST-3

Project: Glenn County General Report

Meter: LDL 831-1

Location: Road HH / Road 7

Calibrator: CAL200

Coordinates: 39.7838833° -122.2070512°

Start: 2019-07-18 15:21:54

Stop: 2019-07-18 15:31:54

SLM: Model 831

Serial: 1329

Measurement Results, dBA

Duration: 0:10

L_{eq} : 61

L_{max} : 76

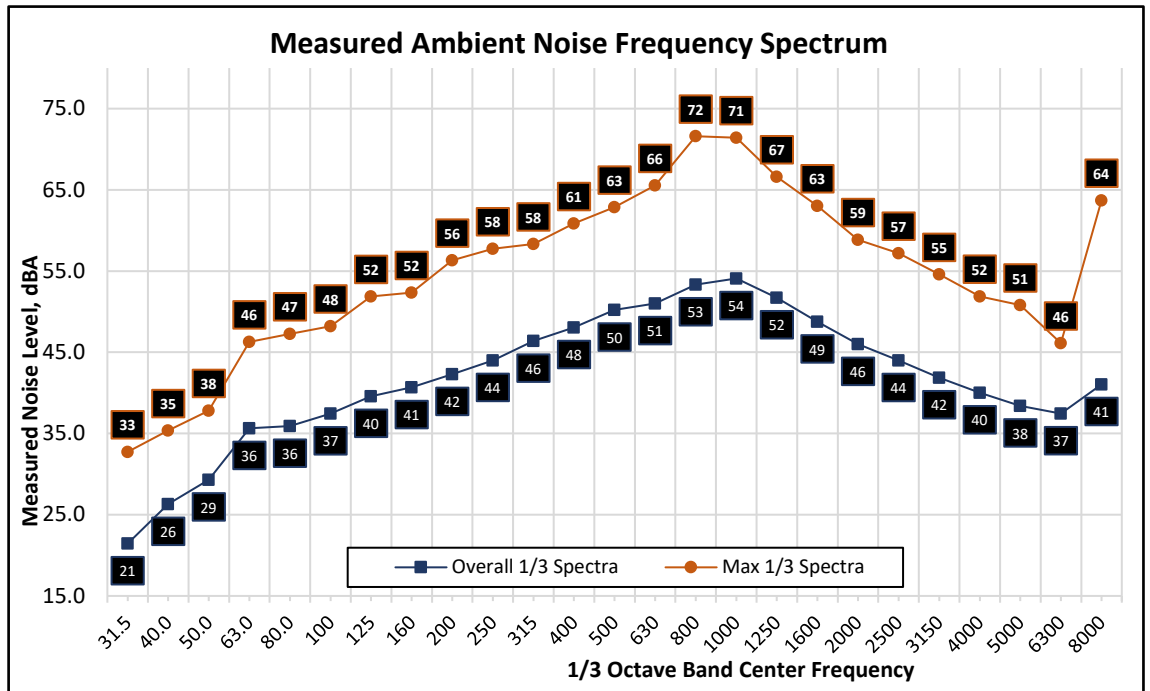
L_{min} : 50

L_{50} : 58

L_{90} : 55

Notes

Primary noise source is traffic on Interstate 5. Secondary noise source is traffic traveling south on Road HH turning left onto Road 7. L_{max} caused by passing autos.



Appendix B11 : Short Term Noise Monitoring Results

Site: ST-4

Project: Glenn County General Report

Meter: LDL 831-1

Location: Road 12 / Road 200

Calibrator: CAL200

Coordinates: 39.7544184° -122.2150945°

Start: 2019-07-18 15:03:14

Stop: 2019-07-18 15:13:14

SLM: Model 831

Serial: 1329

Measurement Results, dBA

Duration: 0:10

L_{eq} : 67

L_{max} : 81

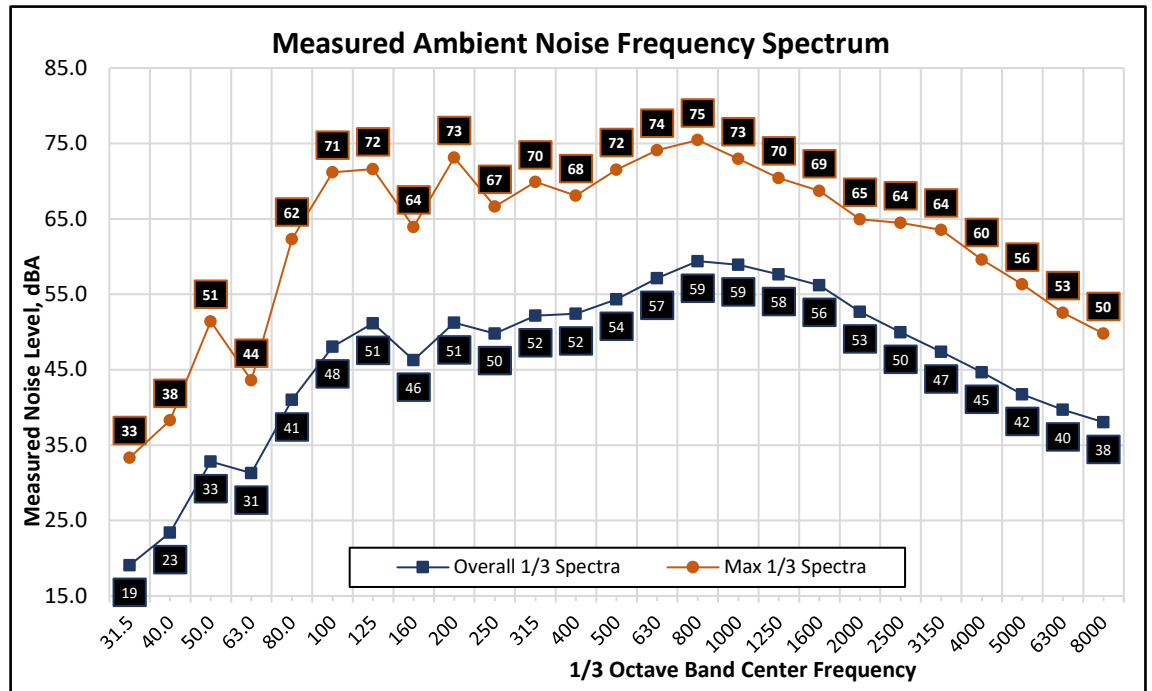
L_{min} : 48

L_{50} : 57

L_{90} : 50

Notes

Primary noise source is traffic on Road 200. Secondary noise source is activity from residents in adjacent neighborhood to the south. Lmax caused by passing autos.



Appendix B12 : Short Term Noise Monitoring Results

Site: ST-5

Project: Glenn County General Report

Meter: LDL 831-1

Location: Road 19 / Road 200

Calibrator: CAL200

Coordinates: 39.7286855° -122.1500798°

Start: 2019-07-19 12:04:15

Stop: 2019-07-19 12:14:15

SLM: Model 831

Serial: 1329

Measurement Results, dBA

Duration: 0:10

L_{eq}: 62

L_{max}: 80

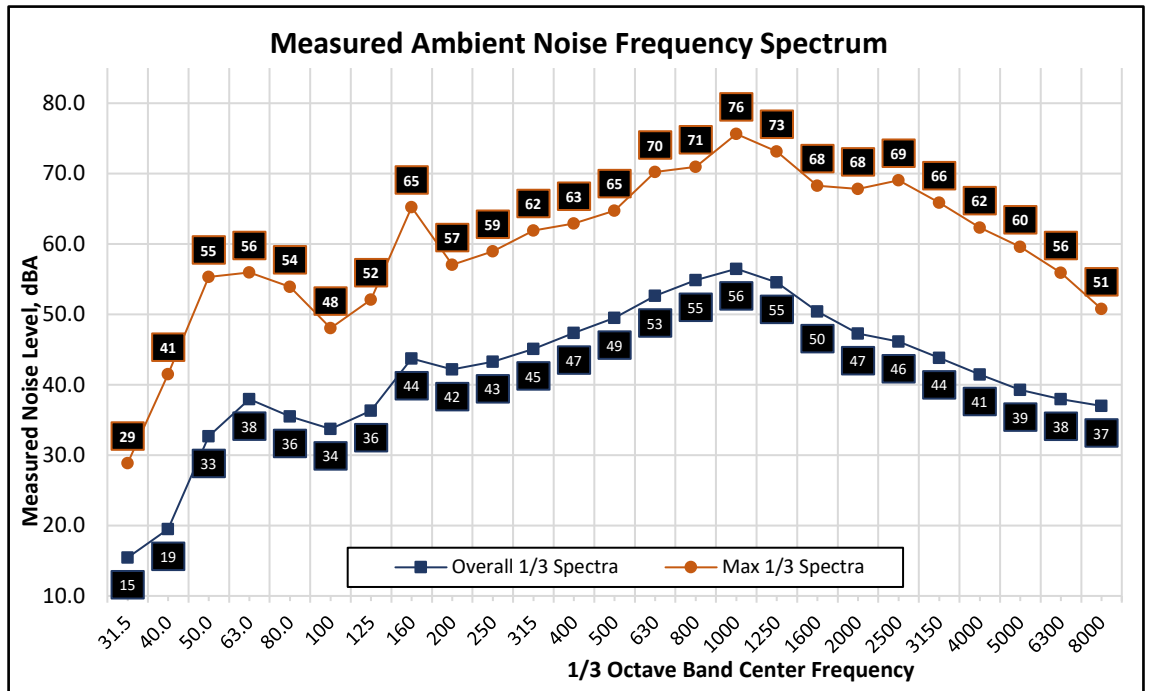
L_{min}: 27

L₅₀: 38

L₉₀: 31

Notes

Primary noise source is traffic on Road 200. Lmax caused by passing heavy trucks.



Appendix B13 : Short Term Noise Monitoring Results

Site: ST-6

Project: Glenn County General Report

Meter: LDL 831-1

Location: Road 23 Near I-5

Calibrator: CAL200

Coordinates: 39.7150184° -122.2054037°

Start: 2019-07-19 11:41:23

Stop: 2019-07-19 11:51:23

SLM: Model 831

Serial: 1329

Measurement Results, dBA

Duration: 0:10

L_{eq}: 66

L_{max}: 73

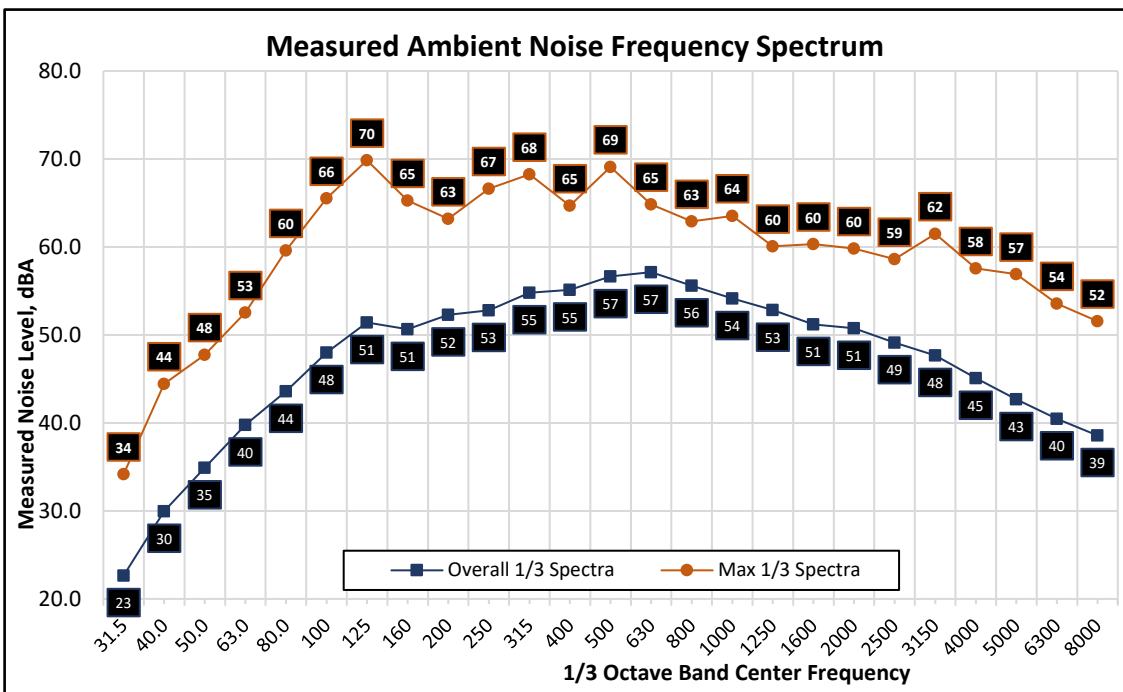
L_{min}: 51

L₅₀: 64

L₉₀: 58

Notes

Primary noise source is traffic on I-5. Lmax caused by passing heavy trucks.



Appendix B14 : Short Term Noise Monitoring Results

Site: ST-7

Project: Glenn County General Report

Meter: LDL 831-1

Location: Park Avenue

Calibrator: CAL200

Coordinates: 39.7429098° -122.0066030°

Start: 2019-07-19 12:32:30

Stop: 2019-07-19 12:42:30

SLM: Model 831

Serial: 1329

Measurement Results, dBA

Duration: 0:10

L_{eq}: 44

L_{max}: 55

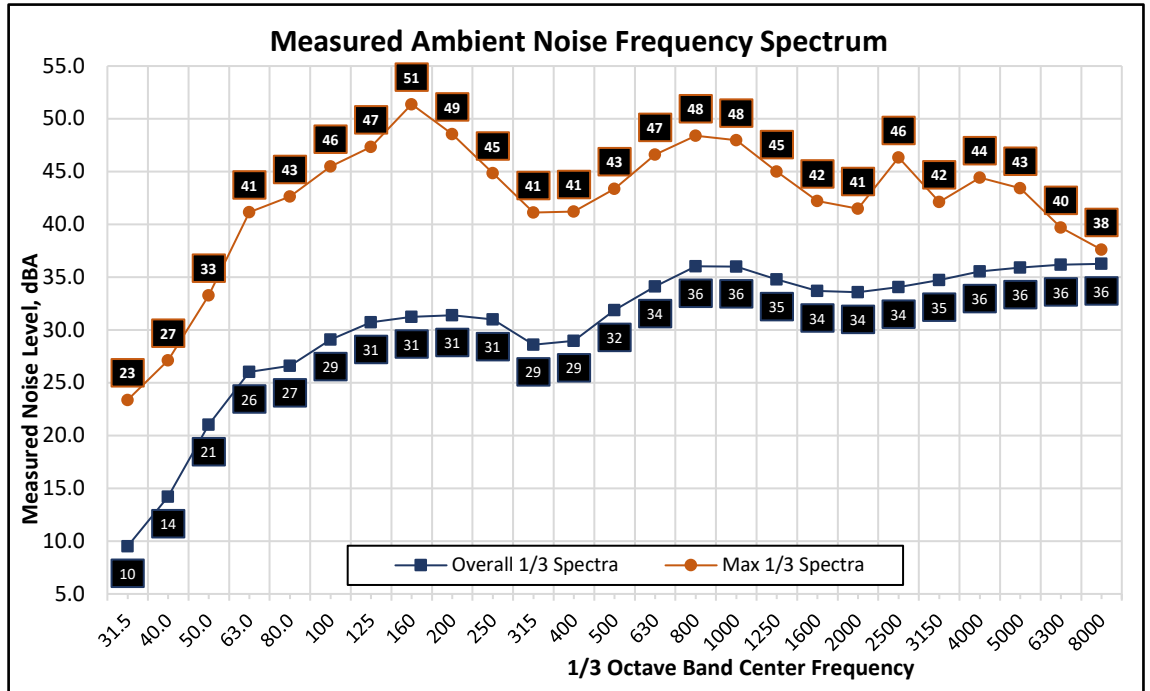
L_{min}: 33

L₅₀: 40

L₉₀: 36

Notes

Primary noise source is traffic on Sacramento Ave. Secondary noise sources include activity from neighbors. Lmax caused by passing autos.



Appendix B15 : Short Term Noise Monitoring Results

Site: ST-8

Project: Glenn County General Report

Meter: LDL 831-1

Location: East Glenn County on Hwy 162

Calibrator: CAL200

Coordinates: 39.4638260° -121.8878533°

Start: 2019-07-18 11:15:34

Stop: 2019-07-18 11:25:34

SLM: Model 831

Serial: 1329

Measurement Results, dBA

Duration: 0:10

L_{eq} : 64

L_{max} : 79

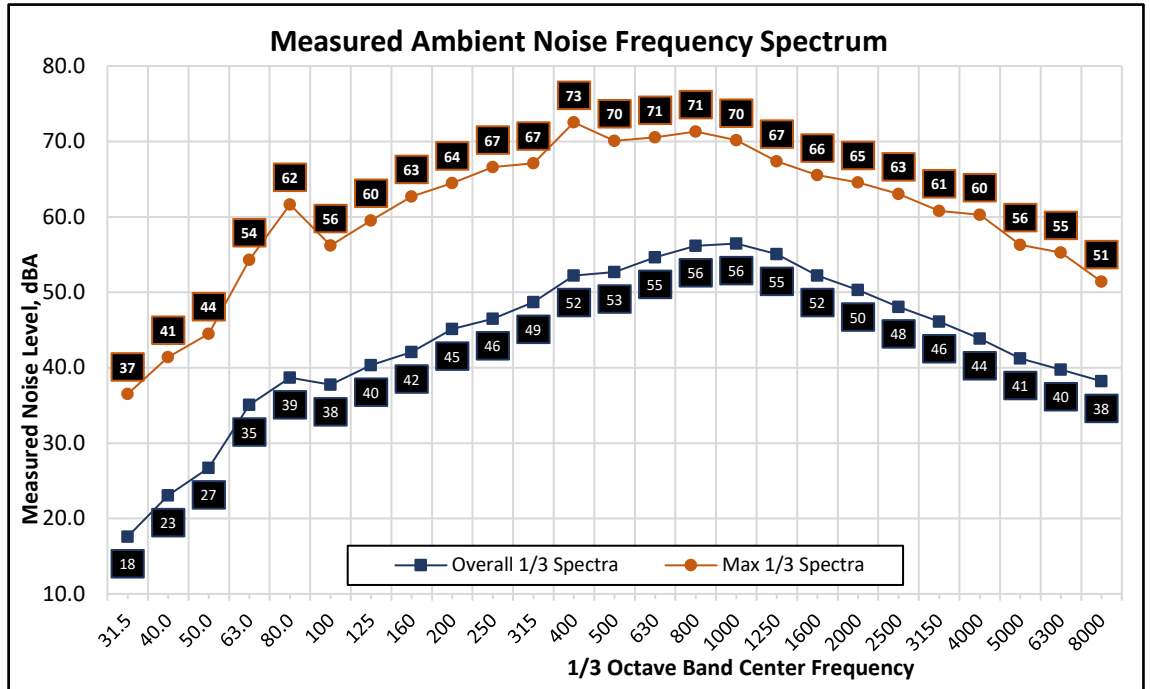
L_{min} : 35

L_{50} : 47

L_{90} : 39

Notes

Primary noise source is traffic on Hwy 162. Secondary noise source is crop duster spraying nearby fields. L_{max} caused by passing heavy trucks.



Appendix B16 : Short Term Noise Monitoring Results

Site: ST-9

Project: Glenn County General Report

Meter: LDL 831-1

Location: Southeast Glenn County on Hwy 45

Calibrator: CAL200

Coordinates: 39.4356487° -122.0112101°

Start: 2019-07-18 10:47:45

Stop: 2019-07-18 10:57:45

SLM: Model 831

Serial: 1329

Measurement Results, dBA

Duration: 0:10

L_{eq}: 71

L_{max}: 87

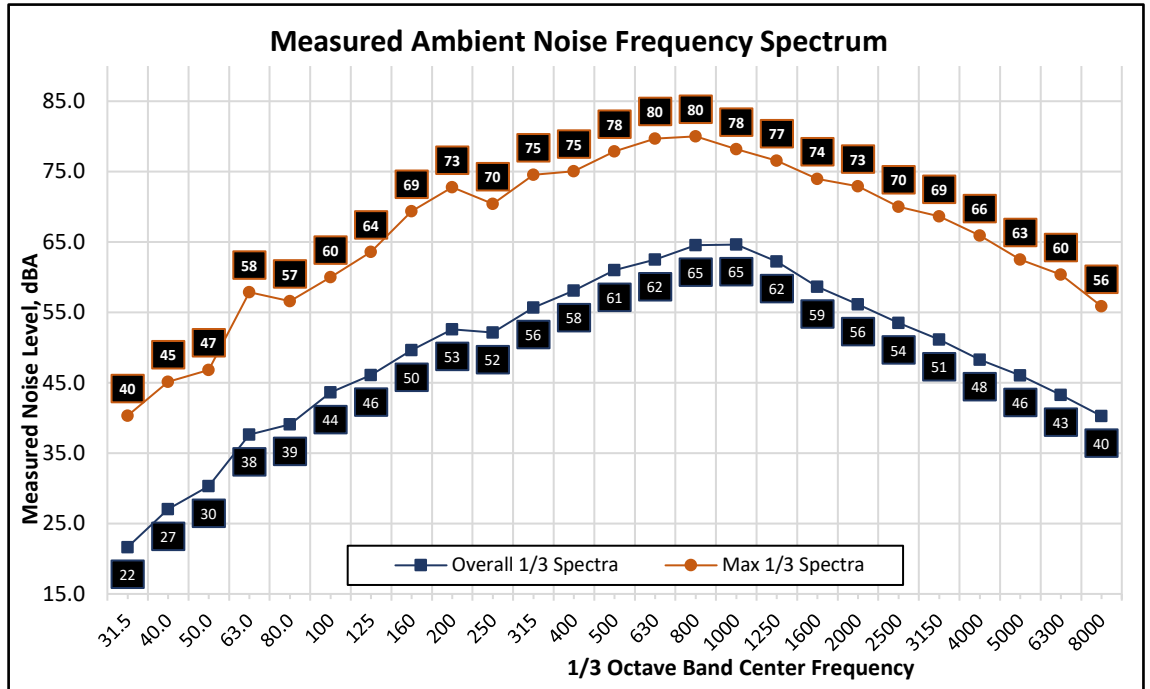
L_{min}: 36

L₅₀: 49

L₉₀: 40

Notes

Primary noise source is traffic on Hwy 45. Lmax caused by passing heavy trucks.



Appendix B17 : Short Term Noise Monitoring Results

Site: ST-10

Project: Glenn County General Report

Meter: LDL 831-1

Location: Southeast Glenn County - Road 60

Calibrator: CAL200

Coordinates: 39.4644632° -122.1029634°

Start: 2019-07-18 10:23:39

Stop: 2019-07-18 10:33:39

SLM: Model 831

Serial: 1329

Measurement Results, dBA

Duration: 0:10

L_{eq}: 65

L_{max}: 82

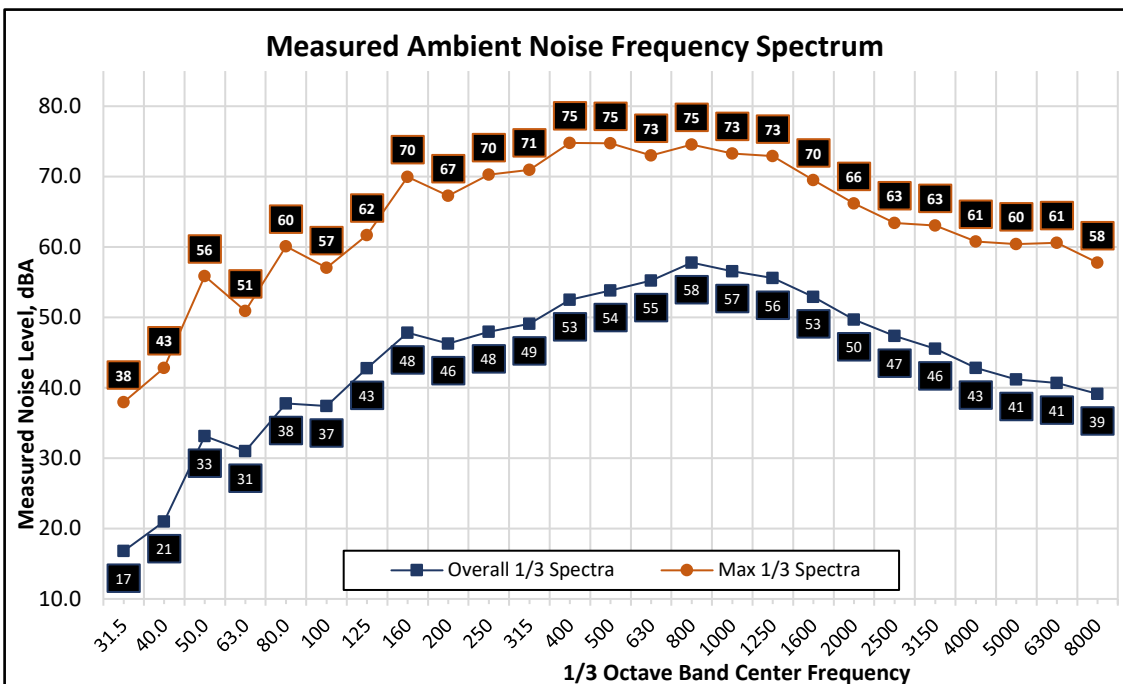
L_{min}: 29

L₅₀: 37

L₉₀: 31

Notes

Primary noise source is traffic on Road 60. Lmax caused by passing heavy trucks.



Appendix B18 : Short Term Noise Monitoring Results

Site: ST-11

Project: Glenn County General Report

Meter: LDL 831-1

Location: Glennwood Lane / Pacific Avenue

Calibrator: CAL200

Coordinates: 39.5308811° -122.2072313°

Start: 2019-07-17 14:14:16

Stop: 2019-07-17 14:24:16

SLM: Model 831

Serial: 1329

Measurement Results, dBA

Duration: 0:10

L_{eq}: 56

L_{max}: 75

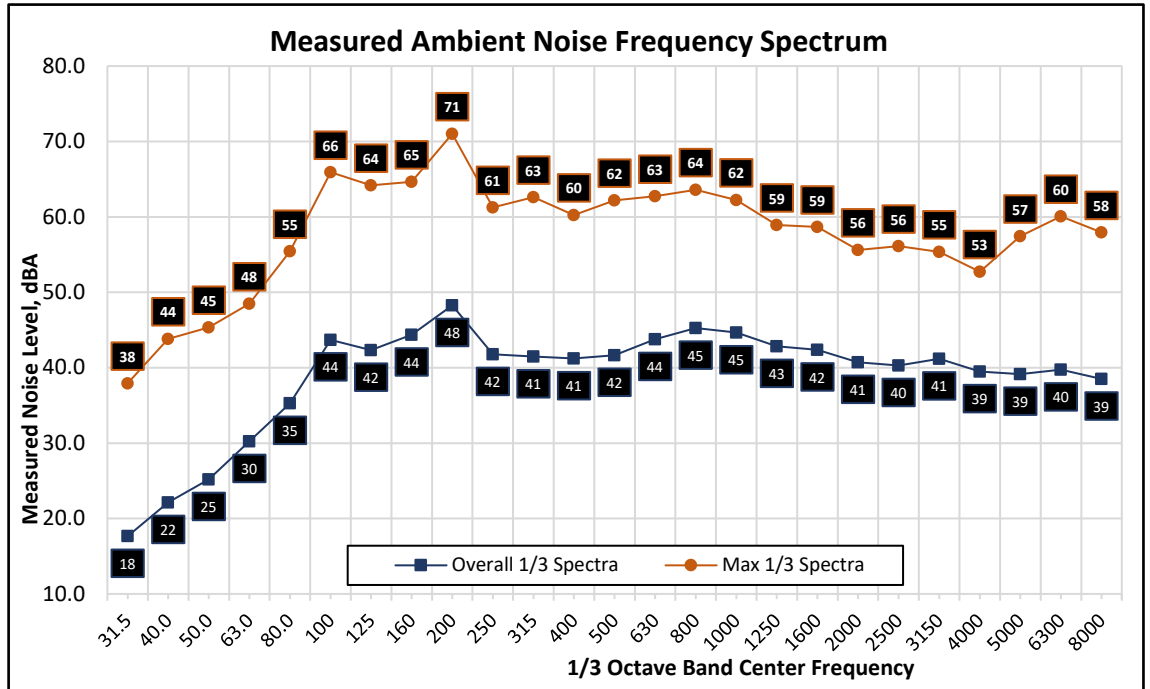
L_{min}: 38

L₅₀: 42

L₉₀: 39

Notes

Primary noise source is traffic on Pacific Avenue. Secondary noise sources include activity from neighbors. Lmax caused by passing autos.



Appendix B19 : Short Term Noise Monitoring Results

Site: ST-12

Project: Glenn County General Report

Meter: LDL 831-1

Location: Willows High School

Calibrator: CAL200

Coordinates: 39.5245109° -122.2027313°

Start: 2019-07-18 09:39:38

Stop: 2019-07-18 09:49:38

SLM: Model 831

Serial: 1329

Measurement Results, dBA

Duration: 0:10

L_{eq}: 58

L_{max}: 68

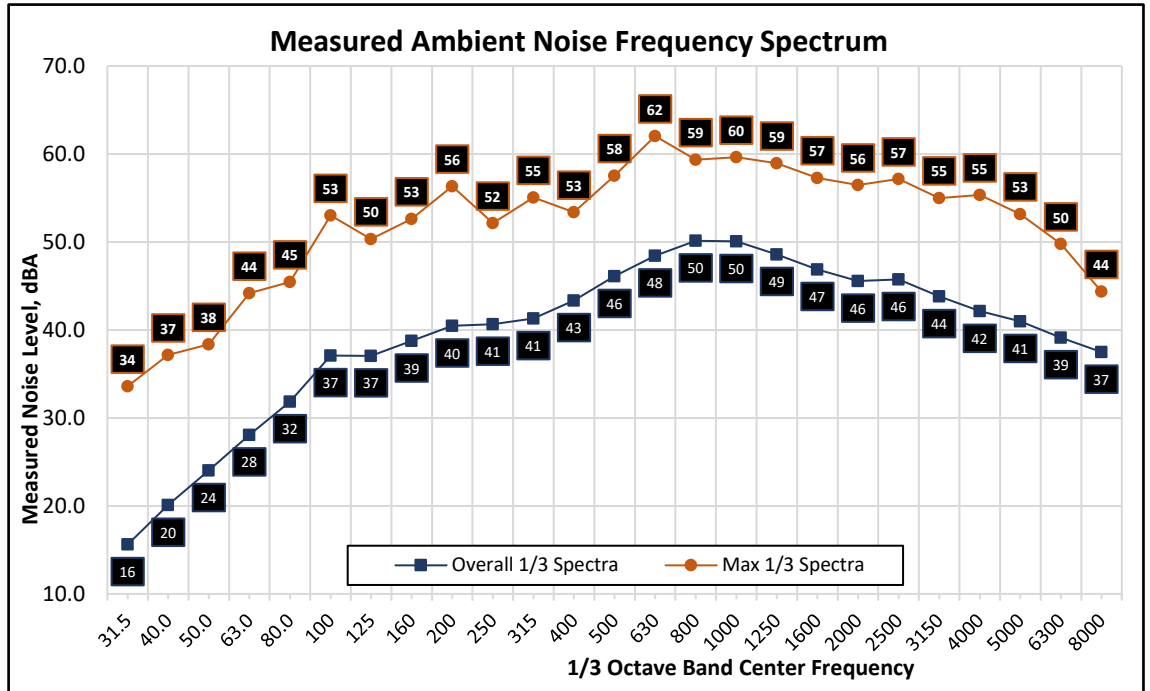
L_{min}: 42

L₅₀: 56

L₉₀: 47

Notes

Primary noise source is traffic on West Wood Street. Secondary noise sources include activity from neighbors. Lmax caused by passing autos.



Appendix B20 : Short Term Noise Monitoring Results

Site: ST-13

Project: Glenn County General Report

Meter: LDL 831-1

Location: Sycamore Park

Calibrator: CAL200

Coordinates: 39.5184993° -122.2044126°

Start: 2019-07-17 14:51:26

Stop: 2019-07-17 15:01:26

SLM: Model 831

Serial: 1329

Measurement Results, dBA

Duration: 0:10

L_{eq} : 48

L_{max} : 64

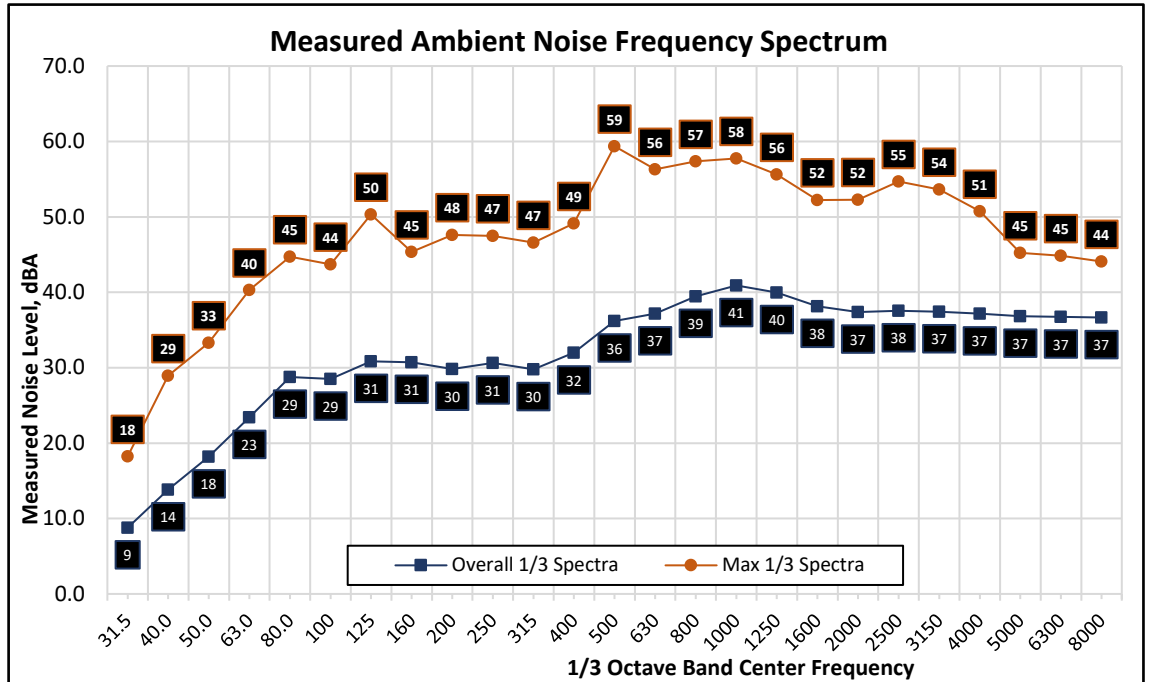
L_{min} : 40

L_{50} : 44

L_{90} : 42

Notes

Primary noise source is traffic on South Culver Street. Secondary noise sources include activity from park-goers. Lmax caused by passing autos.



Appendix B21 : Short Term Noise Monitoring Results

Site: ST-14

Project: Glenn County General Report

Meter: LDL 831-1

Location: Jensen Park

Calibrator: CAL200

Coordinates: 39.5126008° -122.2012405°

Start: 2019-07-17 15:10:05

Stop: 2019-07-17 15:20:05

SLM: Model 831

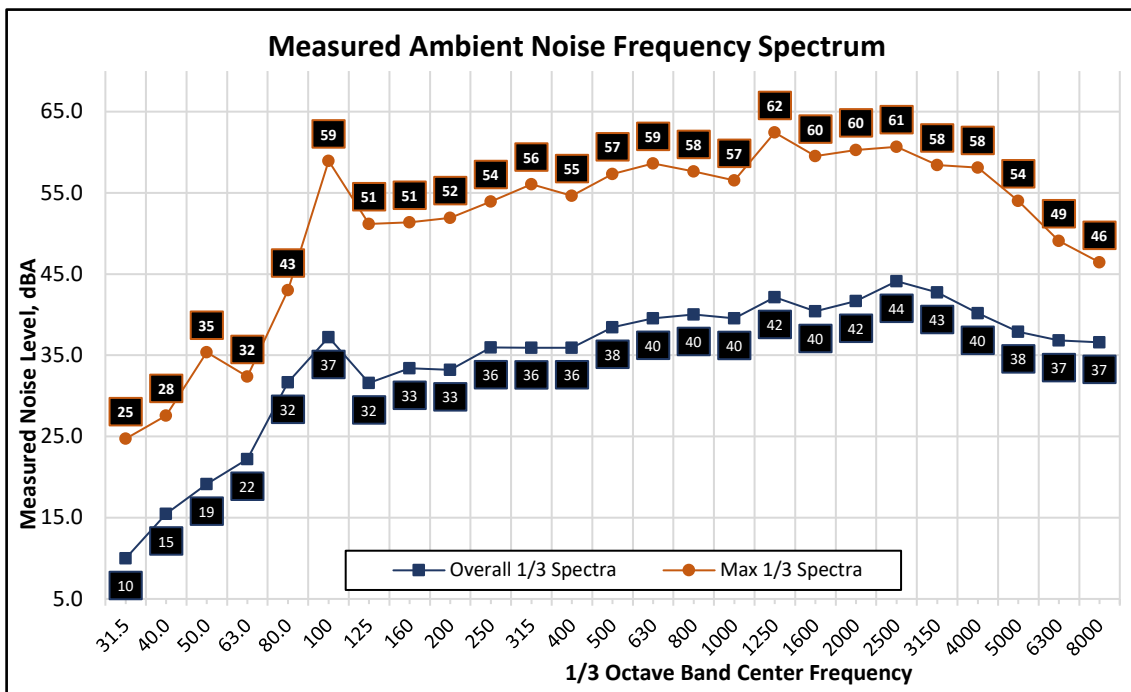
Serial: 1329

Measurement Results, dBA

Duration: 0:10
L_{eq}: 52
L_{max}: 70
L_{min}: 39
L₅₀: 46
L₉₀: 41

Notes

Primary noise source is traffic on Elm Street. Secondary noise sources include activity from park-goers. Lmax caused by passing autos.



Appendix B22 : Short Term Noise Monitoring Results

Site: ST-15

Project: Glenn County General Report

Meter: LDL 831-1

Location: East Willows

Calibrator: CAL200

Coordinates: 39.520913°, -122.1846286°

Start: 2019-07-18 09:58:40

Stop: 2019-07-18 10:08:40

SLM: Model 831

Serial: 1329

Measurement Results, dBA

Duration: 0:10

L_{eq}: 45

L_{max}: 56

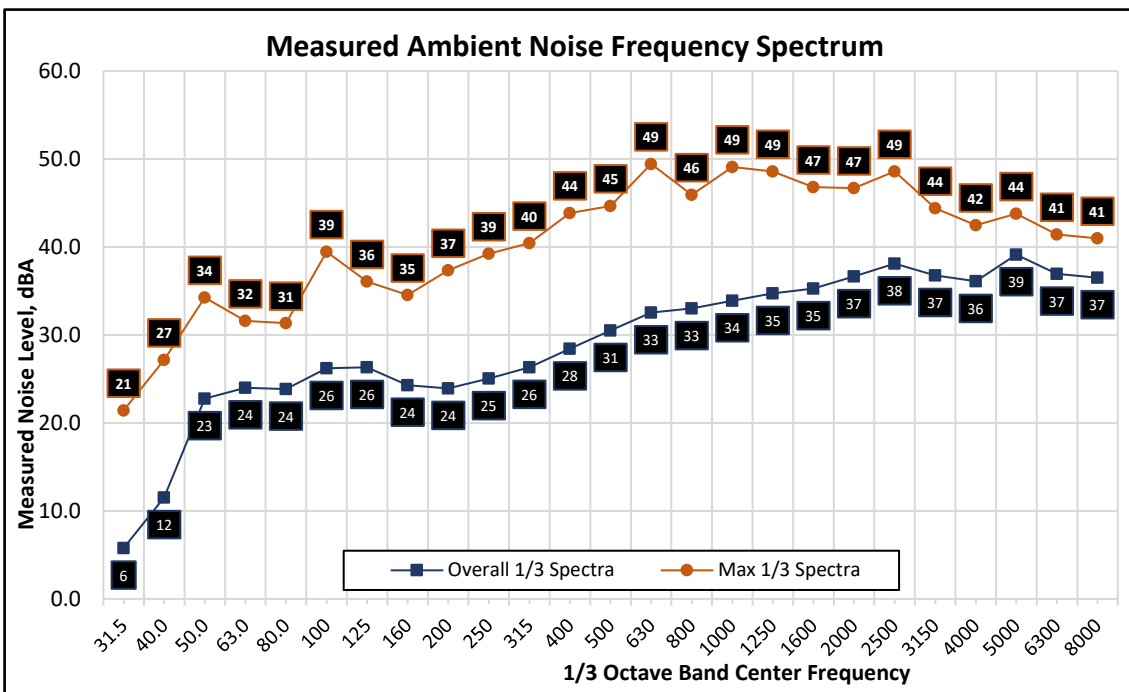
L_{min}: 38

L₅₀: 43

L₉₀: 39

Notes

Primary noise source is auto traffic on Sierra St. Secondary noise sources include local wildlife and distant train horn. Lmax caused by passing autos.



Appendix C

Traffic Noise Calculation

Inputs and Results

Appendix C: Traffic Noise Calculation Inputs and Results



Appendix C-1

FHWA-RD-77-108 Highway Traffic Noise Prediction Model

Project #: 190304

Description: Glenn County General Plan - Existing Traffic

Ldn/CNEL: Ldn

Hard/Soft: Soft

Segment	Roadway	Segment	ADT	Day %	Eve %	Night %	% Med. Trucks	% Hvy. Trucks	Speed	Distance	Offset (dB)	Contours (ft.) - No			Level, dBA
												60 dBA	65 dBA	70 dBA	
1	Road 200 (Newville)	Road 306 to Tehama Co (Morris and Bryant)	137	83	0	17	1.0%	1.0%	55	315	0	12	6	3	39.0
2	Road 206	Road 200 (Newville) to Black Butte Lake	108	83	0	17	1.0%	1.0%	55	350	0	11	5	2	37.3
3	Road D	Road 48 to Road 33	520	79	0	21	1.0%	1.0%	55	990	0	33	15	7	37.9
4	Road D	Road 57 to Colusa County Line	308	79	0	21	1.0%	1.0%	55	110	0	23	11	5	49.9
5	Road 200 (Newville)	Road FF (Cedar Ave) to Road G	2,283	82	0	18	1.0%	1.0%	35	65	0	39	18	8	56.7
6	SR 162 (Wood Street)	Washington Street to Murdock Avenue	10,644	98	0	2	3.0%	3.6%	25	45	0	73	34	16	63.2
7	Road 99W	Orland City Limit to Tehama County Line	2,937	83	0	17	1.0%	1.0%	45	55	0	68	32	15	61.4
8	Road 99W	Road 39 to Road 48	2,999	97	0	3	1.0%	1.0%	45	560	0	44	20	9	43.4
9	Road 99W (N Tehama)	French Street to SR 162 (Biggs-Willows)	5,361	98	0	2	1.0%	1.0%	45	55	0	61	29	13	60.7
10	Road 99W	Road 60 (Riz) to Colusa County Line	910	82	0	18	1.0%	1.0%	55	180	0	45	21	10	51.0
11	Road 9 (Wyo)	Road 99W to Road K K	1,834	83	0	17	1.0%	1.0%	55	65	0	70	33	15	60.5
12	Road 39 (Bayliss Blue)	Road 99W to Road P	1,435	97	0	3	1.0%	1.0%	55	440	0	38	18	8	44.0
13	SR 32 (Walker Street)	Linwood Drive to Road N	11,710	83	0	17	3.8%	8.5%	45	45	0	292	136	63	72.2
14	SR 162 (Biggs-Willows)	1st Street to Road O	3,342	82	0	18	3.6%	5.4%	50	145	0	127	59	27	59.1
15	Road P	SR 32 to Road 18	1,416	83	0	17	1.0%	1.0%	55	65	0	59	28	13	59.4
16	Road P	Road 48 to Willow Creek	581	82	0	18	1.0%	1.0%	55	130	0	33	16	7	51.2
17	Road 45	Road P to Road S	293	82	0	18	1.0%	1.0%	55	510	0	21	10	5	39.3
18	Road S	Road 30 to Road 25	308	83	0	17	1.0%	1.0%	55	105	0	21	10	5	49.6
19	Road S	Road 45 to Road 44	166	82	0	18	1.0%	1.0%	55	210	0	15	7	3	42.6
20	Road 60	Road P to Road SS	1,014	82	0	18	1.0%	1.0%	55	110	0	49	23	10	54.7
21	Road V	State Highway 162 to Road 57	70	82	0	18	1.0%	1.0%	55	250	0	8	4	2	37.7
22	Road 24	State Highway 45 to Road V V	621	83	0	17	1.0%	1.0%	55	270	0	34	16	7	46.5
23	SR 32	Sacramento Ave to Gianella Road	15,675	83	0	17	2.3%	4.3%	55	175	0	365	169	79	64.8
24	SR 45	SR 24 (St John) to Road 29	2,743	83	0	17	1.6%	7.4%	55	225	0	130	60	28	56.4
25	SR 162 (Biggs-Willows)	n/o to Road 52	2,179	82	0	18	2.7%	17.4%	55	100	0	157	73	34	63.0
26	SR 162 (Biggs-Willows)	McDougal Street to Road D	2,590	82	0	18	4.2%	5.8%	55	45	0	124	58	27	66.6
27	Road 48	Road Z to Butte County Line	459	82	0	18	1.0%	1.0%	55	140	0	29	13	6	49.7
28	Road Z	State Highway 162 to Road 48	446	82	0	18	1.0%	1.0%	55	900	0	28	13	6	37.4
29	Road Z	Road 67 to State Highway 162	158	82	0	18	1.0%	1.0%	55	60	0	14	7	3	50.5
30	Interstate 5	Countywide	28,500	79	0	21	6.9%	21.8%	70	110	0	1337	621	288	76.3



Appendix C-2

FHWA-RD-77-108 Highway Traffic Noise Prediction Model

Project #: 190304

Description: Glenn County General Plan - Future (2040) Traffic

Ldn/CNEL: Ldn

Hard/Soft: Soft

Segment	Roadway	Segment	ADT	Day %	Eve %	Night %	% Med. Trucks	% Hvy. Trucks	Speed	Distance	Offset (dB)	Contours (ft.) - No Offset			Level, dBA
												60 dBA	65 dBA	70 dBA	
1	Road 200 (Newville)	Road 306 to Tehama Co (Morris and Bryant)	150	83	0	17	1.0%	1.0%	55	315	0	13	6	3	39.4
2	Road 206	Road 200 (Newville) to Black Butte Lake	120	83	0	17	1.0%	1.0%	55	350	0	11	5	2	37.7
3	Road D	Road 48 to Road 33	550	79	0	21	1.0%	1.0%	55	990	0	34	16	7	38.1
4	Road D	Road 57 to Colusa County Line	330	79	0	21	1.0%	1.0%	55	110	0	25	11	5	50.2
5	Road 200 (Newville)	Road FF (Cedar Ave) to Road G	2,420	82	0	18	1.0%	1.0%	35	65	0	41	19	9	57.0
6	SR 162 (Wood Street)	Washington Street to Murdock Avenue	11,500	98	0	2	3.0%	3.6%	25	45	0	77	36	17	63.5
7	Road 99W	Orland City Limit to Tehama County Line	3,240	83	0	17	1.0%	1.0%	45	55	0	73	34	16	61.8
8	Road 99W	Road 39 to Road 48	3,260	97	0	3	1.0%	1.0%	45	560	0	46	22	10	43.8
9	Road 99W (N Tehama	French Street to SR 162 (Biggs-Willows)	5,800	98	0	2	1.0%	1.0%	45	55	0	65	30	14	61.1
10	Road 99W	Road 60 (Riz) to Colusa County Line	1,020	82	0	18	1.0%	1.0%	55	180	0	49	23	11	51.5
11	Road 9 (Wyo)	Road 99W to Road K K	1,990	83	0	17	1.0%	1.0%	55	65	0	74	35	16	60.9
12	Road 39 (Bayliss Blue	Road 99W to Road P	1,520	97	0	3	1.0%	1.0%	55	440	0	39	18	8	44.3
13	SR 32 (Walker Street)	Linwood Drive to Road N	13,400	83	0	17	3.8%	8.5%	45	45	0	319	148	69	72.8
14	SR 162 (Biggs-Willows	1st Street to Road O	3,590	82	0	18	3.6%	5.4%	50	145	0	133	62	29	59.4
15	Road P	SR 32 to Road 18	1,500	83	0	17	1.0%	1.0%	55	65	0	62	29	13	59.6
16	Road P	Road 48 to Willow Creek	610	82	0	18	1.0%	1.0%	55	130	0	35	16	7	51.4
17	Road 45	Road P to Road S	310	82	0	18	1.0%	1.0%	55	510	0	22	10	5	39.5
18	Road S	Road 30 to Road 25	330	83	0	17	1.0%	1.0%	55	105	0	22	10	5	49.9
19	Road S	Road 45 to Road 44	180	82	0	18	1.0%	1.0%	55	210	0	15	7	3	43.0
20	Road 60	Road P to Road SS	1,070	82	0	18	1.0%	1.0%	55	110	0	50	23	11	54.9
21	Road V	State Highway 162 to Road 57	80	82	0	18	1.0%	1.0%	55	250	0	9	4	2	38.3
22	Road 24	State Highway 45 to Road V V	660	83	0	17	1.0%	1.0%	55	270	0	36	17	8	46.8
23	SR 32	Sacramento Ave to Gianella Road	16,590	83	0	17	2.3%	4.3%	55	175	0	379	176	82	65.0
24	SR 45	SR 24 (St John) to Road 29	2,900	83	0	17	1.6%	7.4%	55	225	0	134	62	29	56.6
25	SR 162 (Biggs-Willows	n/o to Road 52	2,310	82	0	18	2.7%	17.4%	55	100	0	164	76	35	63.2
26	SR 162 (Biggs-Willows	McDougal Street to Road D	2,740	82	0	18	4.2%	5.8%	55	45	0	129	60	28	66.9
27	Road 48	Road Z to Butte County Line	490	82	0	18	1.0%	1.0%	55	140	0	30	14	6	49.9
28	Road Z	State Highway 162 to Road 48	470	82	0	18	1.0%	1.0%	55	900	0	29	13	6	37.6
29	Road Z	Road 67 to State Highway 162	170	82	0	18	1.0%	1.0%	55	60	0	15	7	3	50.9
30	Interstate 5	Countywide	30,164	79	0	21	6.9%	21.8%	70	110	0	1389	645	299	76.5

Appendix D: Example Loading Dock Noise Barrier Reductions



Appendix D-1 : Barrier Insertion Loss Calculation

Project Information:

Project Name: Glenn County GPU
 Location(s): Example Loading Dock - 100' with 12' sound wall

Noise Level Data:

Source Description: Loading Dock
 Source Noise Level, dBA Leq: 66.0
 Source Frequency (Hz): 1000
 Source Height (ft): 8

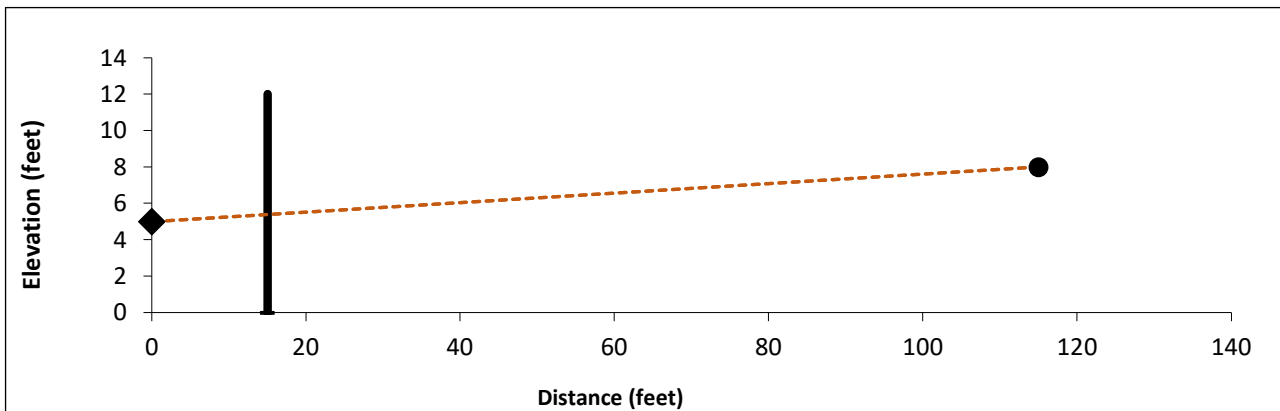
Site Geometry:

Receiver Description: Sensitive Use
 Source to Barrier Distance (C_1): 100
 Barrier to Receiver Distance (C_2): 15
 Pad/Ground Elevation at Receiver: 0
 Receiver Elevation¹: 5
 Base of Barrier Elevation: 0
 Starting Barrier Height 12

Barrier Effectiveness

Top of Barrier Elevation (ft)	Barrier Height (ft)	Insertion Loss, dB	Noise Level, dB	Barrier Breaks Line of Site to Source?
12	12	-13	53	Yes
13	13	-14	52	Yes
14	14	-15	51	Yes
15	15	-15	51	Yes
16	16	-16	50	Yes
17	17	-17	49	Yes
18	18	-17	49	Yes
19	19	-17	49	Yes
20	20	-17	49	Yes
21	21	-17	49	Yes
22	22	-17	49	Yes

Notes: ¹ Standard receiver elevation is five feet above grade/pad elevations at the receiver location(s)



Appendix D-2 : Barrier Insertion Loss Calculation

Project Information:

Project Name: Glenn County GPU
 Location(s): Example Loading Dock - 250' with 12' sound wall

Noise Level Data:

Source Description: Loading Dock
 Source Noise Level, dBA Leq: 58.0
 Source Frequency (Hz): 1000
 Source Height (ft): 8

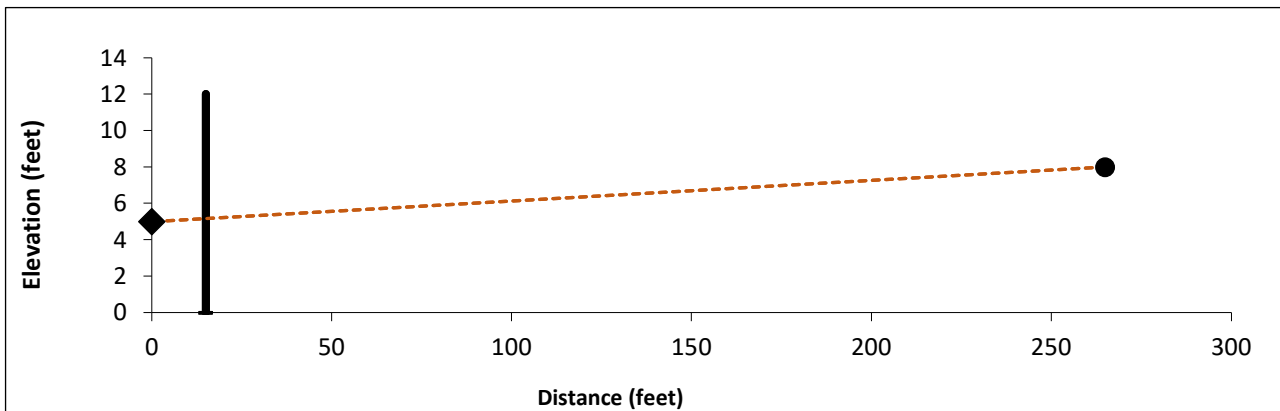
Site Geometry:

Receiver Description: Sensitive Use
 Source to Barrier Distance (C_1): 250
 Barrier to Receiver Distance (C_2): 15
 Pad/Ground Elevation at Receiver: 0
 Receiver Elevation¹: 5
 Base of Barrier Elevation: 0
 Starting Barrier Height 12

Barrier Effectiveness

Top of Barrier Elevation (ft)	Barrier Height (ft)	Insertion Loss, dB	Noise Level, dB	Barrier Breaks Line of Site to Source?
12	12	-13	45	Yes
13	13	-14	44	Yes
14	14	-15	43	Yes
15	15	-15	43	Yes
16	16	-16	42	Yes
17	17	-16	42	Yes
18	18	-17	41	Yes
19	19	-17	41	Yes
20	20	-17	41	Yes
21	21	-17	41	Yes
22	22	-17	41	Yes

Notes: ¹ Standard receiver elevation is five feet above grade/pad elevations at the receiver location(s)



Appendix D-3 : Barrier Insertion Loss Calculation

Project Information:

Project Name: Glenn County GPU
 Location(s): Example Loading Dock - 150' with building shielding

Noise Level Data:

Source Description: Loading Dock
 Source Noise Level, dBA Leq: 62.5
 Source Frequency (Hz): 1000
 Source Height (ft): 8

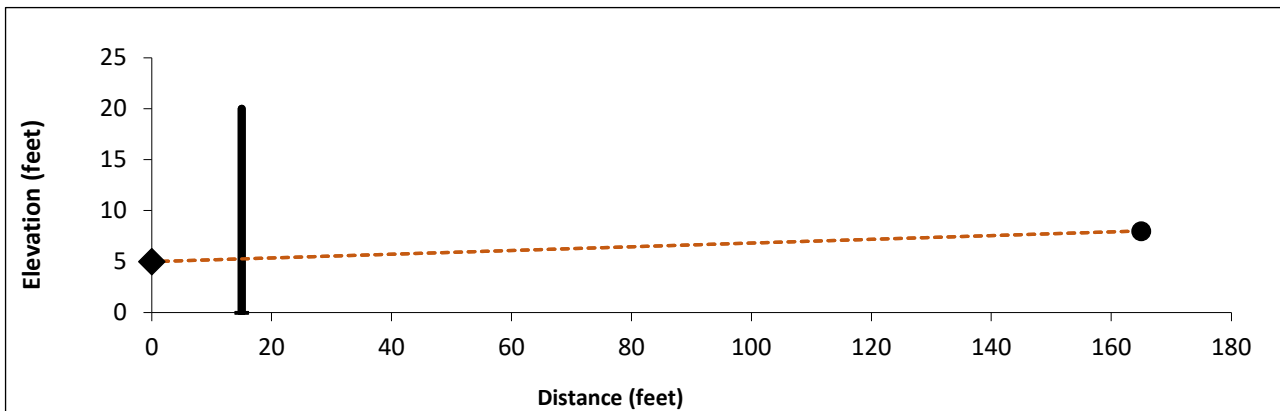
Site Geometry:

Receiver Description: Sensitive Use
 Source to Barrier Distance (C_1): 150
 Barrier to Receiver Distance (C_2): 15
 Pad/Ground Elevation at Receiver: 0
 Receiver Elevation¹: 5
 Base of Barrier Elevation: 0
 Starting Barrier Height 20

Barrier Effectiveness

Top of Barrier Elevation (ft)	Barrier Height (ft)	Insertion Loss, dB	Noise Level, dB	Barrier Breaks Line of Site to Source?
20	20	-17	45	Yes
21	21	-17	45	Yes
22	22	-17	45	Yes
23	23	-17	45	Yes
24	24	-17	45	Yes
25	25	-17	45	Yes
26	26	-18	44	Yes
27	27	-18	44	Yes
28	28	-18	44	Yes
29	29	-18	44	Yes
30	30	-18	44	Yes

Notes: ¹ Standard receiver elevation is five feet above grade/pad elevations at the receiver location(s)



Appendix D

Transportation Data

ID	Road Name	From	To	Existing Lanes	Existing Classification	Existing ADT	2040 ADT
1	Road 200 (Newville)	Road 306	Tehama Co (Morris and Bryant)	2	2-Lane, Class II Highway	137	150
2	Road 206	Road 200 (Newville)	Black Butte Lake	2	2-Lane, Class II Highway	108	120
3	Road D	Road 48	Road 33	2	2-Lane, Class I Highway	520	550
4	Road D	Road 57	Colusa County Line	2	2-Lane, Class I Highway	308	330
5	Road 200 (Newville)	Road FF (Cedar Ave)	Road G	2	Rural Minor Arterial (2 lane)	2,283	2,420
6	SR 162 (Wood Street)	Washington Street	Murdock Avenue	4	Urban Arterial (4 lane)	10,644	11,500
7	Road 99W	Orland City Limit	Tehama County Line	2	2-Lane, Class I Highway	2,937	3,240
8	Road 99W	Road 39	Road 48	2	2-Lane, Class I Highway	2,999	3,260
9	Road 99W (N Tehama)	French Street	SR 162 (Biggs-Willows)	2	Urban Arterial (2 lane)	5,361	5,800
10	Road 99W	Road 60 (Riz)	Colusa County Line	2	2-Lane, Class I Highway	910	1,020
11	Road 9 (Wyo)	Road 99W	Road K K	2	2-Lane, Class I Highway	1,834	1,990
12	Road 39 (Bayliss Blue Gum Road)	Road 99W	Road P	2	2-Lane, Class I Highway	1,435	1,520
13	SR 32 (Walker Street)	Linwood Drive	Road N	2	Urban Arterial (2 lane)	11,710	13,400
14	SR 162 (Biggs-Willows)	1st Street	Road O	2	2-Lane, Class I Highway	3,342	3,590
15	Road P	SR 32	Road 18	2	2-Lane, Class I Highway	1,416	1,500
16	Road P	Road 48	Willow Creek	2	2-Lane, Class I Highway	581	610
17	Road 45	Road P	Road S	2	2-Lane, Class I Highway	293	310
18	Road S	Road 30	Road 25	2	2-Lane, Class I Highway	308	330
19	Road S	Road 45	Road 44	2	2-Lane, Class I Highway	166	180
20	Road 60	Road P	Road SS	2	2-Lane, Class I Highway	1,014	1,070
21	Road V	State Highway 162	Road 57	2	2-Lane, Class I Highway	70	80
22	Road 24	State Highway 45	Road V V	2	2-Lane, Class I Highway	621	660
23	SR 32	Sacramento Ave	Gianella Road	2	2-Lane, Class I Highway	15,675	16,590
24	SR 45	SR 24 (St John)	Road 29	2	2-Lane, Class I Highway	2,743	2,900
25	SR 162 (Biggs-Willows)	n/o	Road 52	2	2-Lane, Class I Highway	2,179	2,310
26	SR 162 (Biggs-Willows)	McDougal Street	Road D	2	2-Lane, Class I Highway	2,590	2,740
27	Road 48	Road Z	Butte County Line	2	2-Lane, Class I Highway	459	490
28	Road Z	State Highway 162	Road 48	2	2-Lane, Class I Highway	446	470
29	Road Z	Road 67	State Highway 162	2	2-Lane, Class I Highway	158	170

Notes: Projected volumes were calculated by taking DOF population projections and finding the growth rate between the DOF's January 2019 population and projected 2040 population in Glenn County. Additional adjustments were made for segments near population centers with higher projected growth (i.e. Orland and Willows)

Growth Rate 5.84%