Butte County
CALIFORNIA

General Plan Update Draft EIR

Public Review Draft | January 2023

Butte County
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Butte County
General Plan Update
Draft EIR

Public Review Draft | January 2023

Prepared By: PlaceWorks

101 Parkshore Drive, Suite 200
Folsom, California 95630
t 916.245.7500

Notice of Completion & Environmental Document Transmittal

Mail to: State Clearinghouse, P.O. Box 3044, Sacramento, CA 95812-3044 (916) 445-0613
For Hand Delivery/Street Address: 1400 Tenth Street, Sacramento, CA 95814

SCH # 2022100151

Project Title: Butte County General Plan Update

Lead Agency: Butte County | Contact Person: Mark Michelena
Mailing Address: 7 County Center Drive | Phone: (530) 552-3683
City: Oroville | Zip: 95965 | County: Butte County

Project Location: County: Butte | City/Nearest Community:
Cross Streets: Countywide | Zip Code: 95965 and others
Longitude/Latitude (degrees, minutes and seconds): ____° ____′ ____″ N / ____° ____′ ____″ W Total Acres: 1,073,000
Assessor's Parcel No.: | Section: | Twp.: | Range: | Base:
Within 2 Miles: State Hwy #: 32,70,99,149, 162, 191 | Waterways: Sly Creek Reservoir, Lake Oroville, Feather River, Thermalito Afterbay, Sacramento River
Airports: Chico Municipal, Oroville Municipal, Paradise, Ranchaero | Railways: Butte County Railroad | Schools: BUSD, CUSD, DUSD, GUSD, PUSD, and others

Document Type:

CEQA: ☐ NOP ☒ Draft EIR ☐ Early Cons ☐ Supplement/Subsequent EIR ☐ Neg Dec (Prior SCH No.) ☐ Mit Neg Dec Other:
NEPA: ☐ NOI ☐ EA ☐ Draft EIS ☐ FONSI
Other: ☐ Joint Document ☐ Final Document ☐ Other:

Local Action Type:

☒ General Plan Update ☐ General Plan Amendment ☐ General Plan Element ☐ Community Plan
☐ Specific Plan ☐ Master Plan ☐ Planned Unit Development ☐ Site Plan
☐ Rezone ☐ Prezone ☐ Use Permit ☐ Land Division (Subdivision, etc.)
☐ Annexation ☐ Redevelopment ☐ Coastal Permit ☐ Other:

Development Type:

☐ Residential: Units ____ Acres ____
☐ Office: Sq.ft. ____ Acres ____ Employees____
☐ Commercial: Sq.ft. ____ Acres ____ Employees____
☐ Industrial: Sq.ft. ____ Acres ____ Employees____
☐ Educational:
☐ Recreational:
☐ Water Facilities: Type ____ MGD ____
☐ Transportation: Type
☐ Mining: Mineral
☐ Power: Type ____ MW
☐ Waste Treatment: Type ____ MGD
☐ Hazardous Waste: Type
☒ Other: General Plan Update

Project Issues Discussed in Document:

☒ Aesthetic/Visual ☒ Agricultural Land ☒ Air Quality ☒ Archeological/Historical ☒ Biological Resources ☐ Coastal Zone ☐ Drainage/Absorption ☐ Economic/Jobs
☐ Fiscal ☒ Flood Plain/Flooding ☒ Forest Land/Fire Hazard ☒ Geologic/Seismic ☒ Minerals ☒ Noise ☒ Population/Housing Balance ☒ Public Services/Facilities
☒ Recreation/Parks ☒ Schools/Universities ☒ Septic Systems ☒ Sewer Capacity ☒ Soil Erosion/Compaction/Grading ☒ Solid Waste ☒ Toxic/Hazardous ☒ Traffic/Circulation
☒ Vegetation ☒ Water Quality ☒ Water Supply/Groundwater ☒ Wetland/Riparian ☒ Growth Inducement ☒ Land Use ☒ Cumulative Effects ☒ Other: GHG Emissions

Present Land Use/Zoning/General Plan Designation:

Countywide

Project Description: *(please use a separate page if necessary)*

The Butte County General Plan outlines the County's goals for physical growth, conservation, and community life in the unincorporated area, and contains policies and actions to guide the County in reaching those goals. The 2040 Update will be focused primarily on safety, housing, and environmental justice.

Note: The State Clearinghouse will assign identification numbers for all new projects. If a SCH number already exists for a project (e.g. Notice of Preparation or previous draft document) please fill in.

Reviewing Agencies Checklist

Lead Agencies may recommend State Clearinghouse distribution by marking agencies below with and "**X**".
If you have already sent your document to the agency please denote that with an "**S**".

X	Air Resources Board	X	Office of Historic Preservation
	Boating & Waterways, Department of		Office of Public School Construction
X	California Emergency Management Agency	X	Parks & Recreation, Department of
X	California Highway Patrol		Pesticide Regulation, Department of
X	Caltrans District # 3	X	Public Utilities Commission
	Caltrans Division of Aeronautics	X	Regional WQCB # 5
X	Caltrans Planning	X	Resources Agency
	Central Valley Flood Protection Board		Resources Recycling and Recovery, Department of
	Coachella Valley Mtns. Conservancy		S.F. Bay Conservation & Development Comm.
	Coastal Commission		San Gabriel & Lower L.A. Rivers & Mtns. Conservancy
	Colorado River Board		San Joaquin River Conservancy
X	Conservation, Department of		Santa Monica Mtns. Conservancy
	Corrections, Department of	X	State Lands Commission
	Delta Protection Commission	X	SWRCB: Clean Water Grants
	Education, Department of	X	SWRCB: Water Quality
	Energy Commission	X	SWRCB: Water Rights
X	Fish & Game Region # 2		Tahoe Regional Planning Agency
	Food & Agriculture, Department of	X	Toxic Substances Control, Department of
X	Forestry and Fire Protection, Department of	X	Water Resources, Department of
	General Services, Department of		
	Health Services, Department of		Other:
X	Housing & Community Development		Other:
X	Native American Heritage Commission		

Local Public Review Period (to be filled in by lead agency)

Starting Date: Friday, January 06, 2023 Ending Date: Tuesday, February 21, 2023

Lead Agency (Complete if applicable):

Consulting Firm: PlaceWorks
Address: 101 Parkshore Drive
City/State/Zip: Folsom, CA 95630
Contact: Mark Teague
Phone: (916) 245-7500 ext. 2730

Applicant: Butte County
Address: 7 County Center Drive
City/State/Zip: Oroville, CA 95965
Phone: (530) 552-3683

Signature of Lead Agency Representative: Michelena, Mark Digitally signed by Michelena, Mark Date: 2022.12.19 08:03:13 -08'00' **Date:** 12/19/2022

Authority cited: Section 21083, Public Resources Code. Reference: Section 21161, Public Resources Code.

Acronyms and Abbreviations

ACRONYM/ABBREVIATION	MEANING
AAQS	ambient air quality standards
ALUC	Airport Land Use Commission
ALUCP	Airport Land Use Compatibility Plan
AB	Assembly Bill
AQAP	Air Quality Attainment Plan
ASCS	Agricultural Stabilization and Conservation Services
BCAG	Butte County Association of Governments
BCAQMD	Butte County Air Quality Management District
BCFD	Butte County Fire Department
BCSO	Butte County Sheriff's Office
BLM	United States Bureau of Land Management
CAL FIRE	California Department of Forestry and Fire Protection
Cal/OSHA	California Division of Occupational Safety and Health Administration
CAP	Climate Action Plan
CARB	California Air Resources Board
CARD	Chico Area Recreation and Park District
Caltrans	California Department of Transportation
CBC	California Building Code
CBSC	California Building Standards Code
CDFW	California Department of Fish and Wildlife
CDP	census designated place
CEQA	California Environmental Quality Act

ACRONYMS AND ABBREVIATIONS

CERCLA	Comprehensive Environmental Response, Conservation, and Liability Act
CERCLIS	Comprehensive Environmental Response, Compensation, and Liability Information System
CFD	Community Facilities District
CFR	Code of Federal Regulations
CHHSL	California Human Health Screening Levels
CHP	California Highway Patrol
CLUP	Comprehensive Land Use Plan
CNG	compressed natural gas
CO	carbon monoxide
COG	Councils of Governments
CPR	Cardiopulmonary Resuscitation
CPUC	California Public Utilities Commission
CSU	California State University
CUPA	Certified Unified Program Agency
CVRWQCB	Central Valley Regional Water Quality Control Board
CWPP	Community Wildfire Protection Plan
DHS	California Department of Health Services
DMA	Disaster Mitigation Action of 2000
DOF	California Department of Finance
DOT	Department of Transportation
DTSC	Department of Toxic Substances Control
DZA	deep Zone Aquifer
ECC	Emergency Command Center
EIR	environmental impact report
EMD	Emergency Medical Dispatch
EOP	Emergency Operations Plan
EPA	US Environmental Protection Agency

ACRONYMS AND ABBREVIATIONS

ESA	Environmental Site Assessment
ESL	environmental screening level
FAA	Federal Aviation Administration
FAR	floor-area ratio
FEMA	Federal Emergency Management Agency
FLAME Act	Federal Land Assistance, Management, and Enhancement Act of 2009
FMMP	Farmland Mapping and Monitoring Program
FRA	Federal Responsibility Area
FRRPD	Feather River Recreation and Park District
GHG	greenhouse gas
GIS	geographic information system
HCD	California Department of Housing and Community Development
HCP	Habitat Conservation Plan
HVAC	heating, ventilation, and air conditioning
IBC	International Building Code
IFC	International Fire Code
I/SE	Imminent and Substantial Endangerment
ISO	Insurance Service Office
IZA	Intermediate Zone Aquifer
LAFCO	Local Agency Formation Commission
LHMP	Local Hazard Mitigation Plan
LOS	level of service
LRA	Local Responsibility Area
LUST	leaking underground storage tank
MCE	maximum credible earthquake
MHMP	Butte County Multi-Jurisdictional All Hazard Pre-Disaster Mitigation Plan

ACRONYMS AND ABBREVIATIONS

MMI	Modified Mercalli Intensity
MMRP	mitigation monitoring and reporting program/Plan
NCCP	Natural Community Conservation Plan
NEPA	National Environmental Policy Act of 1969
NFPA	National Fire Protection Association
NHPA	National Historic Preservation Act
NMFS	National Marine Fisheries Service
NO_x	nitrogen oxides
NON	Notice of Noncompliance
NOP	Notice of Preparation
NPL	National Priority List
NRCS	Natural Resources Conservation Service
NSVAB	Northern Sacramento Valley Air Basin
NSVPA	Northern Sacramento Valley Planning Area
NTA	Notice to Apply for a Permit
NTC	Notice to Comply
O_3	ozone
OES	Office of Emergency Services
OPR	Office of Planning and Research
OSHA	Occupational Safety and Health Administration
PCE	perchloroethylene
PCP	pentachlorophenol
PG&E	Pacific Gas and Electric Company
$PM_{2.5}$	fine inhalable particulate matter
PM_{10}	coarse inhalable particulate matter
ppb	parts per billion
PRC	Public Resources Code
PRPA	Paleontological Resources Preservation Act

PRPD	Paradise Recreation and Parks District
PUSD	Paradise Unified School District
RAO	Remedial Action Order
RCD	Butte County Resource Conservation District
RHNA	Regional Housing Needs Allocation
RMP	Resource Management Plan
RTP	regional transportation plan
RV	recreational vehicle
RWQCB	Regional Water Quality Control Board
SARC	School Accountability Report Card
SB	Senate Bill
SEIR	Supplemental Environmental Impact Report
SOI	sphere of influence
SCS	Sustainable Communities Strategy
SFM	State Fire Marshal
SHMA	Seismic Hazards Mapping Act
SHMP	State of California Multi-Hazard Mitigation Plan
SPCC	Spill Prevention, Control, and Countermeasure
SR	State Route
SRA	State Responsibility Area
STEAM	science, technology, engineering, the arts and mathematics
SVE	soil vapor extraction system
SWAT	Special Weapons and Tactics
SWRCB	State Water Resources Control Board
SZA	Shallow Zone Aquifer
TAZ	Traffic Analysis Zone
TCE	tetrachloroethylene
TDF	travel demand forecasting

ACRONYMS AND ABBREVIATIONS

TDM	Transportation Demand Management
TMP	Transportation Master Plan
TSM	Transportation System Management
UGB	Urban growth boundary
URCP	Upper Ridge Community Plan
USC	United States Code
USFS	United States Forest Service
USFWS	United States Fish and Wildlife Service
VHFHSZ	Very High Fire Hazard Severity Zone
VMT	vehicle miles traveled
VOC	volatile organic compounds
WTC	Work Training Center
WUI	wildland-urban interface

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1. *Executive Summary*

This chapter presents an overview of the proposed Butte County General Plan Update, which is in the California Central Valley, north of Sacramento, herein referred to as the "proposed project." This executive summary also provides conclusions of the analyses contained in Sections 5.1 through 5.18 of this Draft Environmental Impact Report (Draft EIR), a summary of the alternatives to the proposed project, and issues to be resolved. For a complete description of the proposed project, refer to Chapter 3, *Project Description*. For a discussion of alternatives to the proposed project, see Chapter 7, *Alternatives*.

This Draft EIR addresses the environmental effects associated with adoption and implementation of the proposed project. An EIR is a public document designed to provide the public, local, and state governmental agency decision makers with an analysis of potential environmental consequences to support informed decision making. The California Environmental Quality Act (CEQA) requires that local government agencies, prior to taking action on projects over which they have discretionary approval authority, consider the environmental consequences of such projects.

This Draft EIR has been prepared pursuant to the requirements of CEQA (California Public Resources Code, Division 13, Section 21000, et seq.) and the State CEQA Guidelines (Title 14 of the California Code of Regulations (CCR), Division 6, Chapter 3, Section 15000, et seq.) to determine if the proposed project could have a significant impact on the environment. Information for this Draft EIR was obtained through on-site field observations; discussions with public service agencies; analysis of adopted plans and policies; review of available studies, reports, data, and similar literature in the public domain; and specialized environmental assessments (e.g., air quality, greenhouse gas emissions, noise, and transportation).

1.1 INTRODUCTION

This Draft EIR addresses the environmental effects associated with the implementation of the proposed Butte County General Plan Update (project). CEQA requires that local government agencies consider the environmental consequences before acting on projects over which they have discretionary approval authority. An EIR analyzes potential environmental consequences to inform the public and support informed decisions by local and state governmental agency decision makers.

This EIR has been prepared pursuant to the requirements of CEQA and Butte County's CEQA procedures. Butte County, as the lead agency, has reviewed and revised all submitted drafts, technical studies, and reports as necessary to reflect its own independent judgement, including reliance on County technical personnel from other departments and review of all technical subconsultant reports.

Data for this EIR derive from on-site field observations; discussions with affected agencies; analysis of adopted plans and policies; review of available studies, reports, data, and similar literature; and specialized environmental assessments (aesthetics, agriculture and forestry resources, air quality, biological resources,

cultural resources, energy, geology and soils, greenhouse gas emissions, hazards and hazardous materials, hydrology and water quality, mineral resources, land use and planning, noise, population and housing, public services, recreation, transportation, tribal cultural resources, utilities and service systems, and wildfire).

1.2 ENVIRONMENTAL PROCEDURES

This Draft EIR has been prepared to assess the environmental effects associated with implementation of the proposed project. The six main objectives of this document, as established by CEQA are:

- To disclose to decision makers and the public the significant environmental effects of proposed activities.
- To identify ways to avoid or reduce environmental impacts.
- To prevent environmental impacts through implementation of feasible alternatives or mitigation measures.
- To disclose significant environmental effects.
- To foster interagency coordination in the review of projects.
- To enhance public participation in the planning process.

An EIR is the most comprehensive form of environmental documentation identified in the CEQA statue and in the CEQA Guidelines. It provides the information needed to assess the environmental consequences of a proposed project, to the extent feasible. EIRs are intended to provide an objective, factually supported, full-disclosure analysis of any environmental consequences associated with a proposed project, which may have the potential to result in significant, adverse environmental impacts. An EIR is also one of various decision-making tools used by a lead agency to consider the merits and disadvantages of a project that is subject to its discretionary authority. Prior to approving a proposed project, the lead agency must consider the information contained in the EIR, determine whether the EIR was properly prepared in accordance with CEQA and the CEQA Guidelines, determine that it reflects the independent judgement of the lead agency, adopt findings concerning the proposed project's significant environmental impacts and alternatives, and if needed, adopt a Statement of Overriding Considerations if the proposed project would result in significant impacts that cannot be avoided or mitigated.

1.3 PROJECT LOCATION

Butte County is in the California Central Valley, north of Sacramento. Butte County covers approximately 1,073,000 acres, including the Chico Metropolitan Statistical Area (MSA). Butte County is bordered by Tehama County to the north, Plumas County to the east, Yuba and Sutter Counties to the south, and Glenn County to the west.

1.4 PROJECT SUMMARY

The project is an update of Butte County's General Plan. The General Plan is a state-required legal document that provides guidance to decision makers regarding the allocation of resources and determining the future physical form and character of development within the unincorporated county, including land inside each municipality's Sphere of Influence (SOI), but not inside municipality limits. It is the official statement of the County regarding the extent and types of development needed to achieve the community's physical, economic, social, and environmental goals. Although the General Plan is composed of individual chapters that individually address a specific area of concern, the General Plan embodies a comprehensive and integrated planning approach for the jurisdiction.

Since the current General Plan was adopted in 2010, the Camp and North Complex Fires destroyed nearly 17,000 structures, including more than 14,000 homes, and displaced many more residents. The updated General Plan will support the County's efforts to rebuild and create a more resilient future. The General Plan Update will also serve as an opportunity to address issues related to climate adaptation and environmental justice, as well as other new State laws. To achieve these goals, the County is closely working with community members and stakeholders to ensure that community needs and opportunities are fully understood and properly addressed.

1.4.1 EIR FORMAT

Chapter 1. Executive Summary: Summarizes the background and description of the project, the format of this EIR, project alternatives, any critical issues remaining to be resolved, areas of controversy, and the potential environmental impacts and mitigation measures identified for the project.

Chapter 2. Introduction: Describes the purpose of this EIR, background on the project, the notice of preparation, the use of incorporation by reference, and Final EIR certification.

Chapter 3. Project Description: A detailed description of the project, including its objectives, its area and location, approvals anticipated to be required as part of the project, necessary environmental clearances, and the intended uses of this EIR. As the project is a General Plan, the project description is a summary of the lengthier document that is included as Appendix 3-1 to this EIR.

Chapter 4. Environmental Setting: A description of the physical environmental conditions in the vicinity of the project as they existed at the time the notice of preparation was published, from local and regional perspectives. These provide the baseline physical conditions from which the lead agency determines the significance of the project's environmental impacts.

Chapter 5. Environmental Analysis: Each environmental topic is analyzed in a separate section that discusses: the thresholds used to determine if a significant impact would occur; the methodology to identify and evaluate the potential impacts of the project; the existing environmental setting; the potential adverse and beneficial effects of the project; the level of impact significance before mitigation; the mitigation measures for the project; the level of significance after mitigation is incorporated; and the potential cumulative impacts of the project and other existing, approved, and proposed development in the area.

Chapter 6. Unavoidable Impacts, Irreversible Changes, and Growth-Inducing Impacts: Describes the significant unavoidable adverse impacts and significant irreversible environmental changes associated with the project. Describes the ways in which the project would cause increases in employment or population that could result in new physical or environmental impacts.

Chapter 7. Alternatives to the Project: Describes the alternatives and compares their impacts to the impacts of the project. Alternatives include the No Project Alternative.

Chapter 8. Organizations Consulted and Qualifications of Preparers: Lists the people and organizations that were contacted during the preparation of this EIR, as well as the people who prepared this EIR for the project.

Appendices: The appendices for this document comprise the following supporting documents and can be found online at: https://www.buttecounty.net/dds/generalplanupdate and:

- Appendix 2-1: Notice of Preparation (NOP) and NOP Comments
- Appendix 3-1: Butte County General Plan Public Review Draft October 2022
- Appendix 3-2: General Plan 2040 Land Use Model
- Appendix 5.3-1: Air Pollutant Emissions Inventory and Forecast
- Appendix 5.8-1: Greenhouse Gas Emissions Inventory and Forecast
- Appendix 5.13-1: Noise and Vibration Technical Memorandum

1.4.2 TYPE AND PURPOSE OF THIS EIR

This EIR fulfills the requirements for a Program EIR. Agencies prepare Program EIRs for programs or a series of related actions that are linked geographically; logical parts of a chain of contemplated events, rules, regulations, or plans that govern the conduct of a continuing program; or individual activities carried out under the same authority and having generally similar environmental effects that can be mitigated in similar ways.

Although the legally required contents of a Program EIR are the same as a Project EIR, Program EIRs are typically more conceptual than Project EIRs, with a more general discussion of impacts, alternatives, and mitigation measures. According to Section 15168 of the CEQA Guidelines, a Program EIR may be prepared on a series of actions that can be characterized as one large project. Use of a Program EIR gives the lead agency an opportunity to consider broad policy alternatives and program-wide mitigation measures, as well as greater flexibility to address project-specific and cumulative environmental impacts on a comprehensive scale.

Once a Program EIR has been prepared, subsequent activities within the program must be evaluated to determine whether an additional CEQA document is necessary. However, if the Program EIR addresses the program's effects as specifically and comprehensively as possible, many subsequent activities may be within the Program EIR's scope, and additional environmental documents may not be required (CEQA Guidelines, Section 15168[c]). When a lead agency relies on a Program EIR for a subsequent activity, it must incorporate

feasible mitigation measures and alternatives from the Program EIR into the subsequent activities (CEQA Guidelines, Section 15168[c][3]). If a subsequent activity would have effects outside the scope of the Program EIR, the lead agency must prepare a new Initial Study leading to a Negative Declaration, Mitigated Negative Declaration, or an EIR. Even in this case, the Program EIR still serves a valuable purpose as the first-tier environmental analysis. The CEQA Guidelines encourage the use of Program EIRs, citing five advantages:

- Provide a more exhaustive consideration of impacts and alternatives than would be practical in an individual EIR.
- Focus on cumulative impacts that might be slighted in a case-by-case analysis.
- Avoid continual reconsideration of recurring policy issues.
- Consider broad policy alternatives and programmatic mitigation measures at an early stage when the agency has greater flexibility to deal with them.
- Reduce paperwork by encouraging the reuse of data (through tiering) (CEQA Guidelines, Section 15168[h]).

1.5 SUMMARY OF PROJECT ALTERNATIVES

The CEQA Guidelines (Section 15126.6[a]) state that an EIR must address "a range of reasonable alternatives to the project, or to the location of the project, which could feasibly attain the basic objectives of the project but would avoid or substantially lessen any of the significant effects of the project and evaluate the comparative merits of the alternatives." The alternatives in this EIR were based, in part, on their potential ability to reduce or eliminate the impacts determined to be significant and unavoidable for implementation of the project. Project alternatives are assessed in further detail in Chapter 7, *Alternatives to the Proposed Project*.

1.5.1 NO PROJECT/EXISTING GENERAL PLAN ALTERNATIVE

The No Project Alternative is required to discuss the existing conditions at the time the notice of preparation is published and evaluate what would reasonably be expected to occur in the foreseeable future if the proposed project is not approved (CEQA Guidelines, Section 15126.6(e)). Pursuant to CEQA, this alternative is also based on current plans and consistent with available infrastructure and community services. Therefore, the No Project/Existing General Plan Alternative assumes that the proposed General Plan would not be adopted, and the development intensity assumed in the existing General Plan would be followed.

1.6 ISSUES TO BE RESOLVED

Section 15123(b)(3) of CEQA Guidelines requires that an EIR identify issues to be resolved, including whether or how to mitigate potentially significant impacts and the choice among alternatives. With regard to the proposed project, the major issues to be resolved include decisions by Butte County, as lead agency, related to:

- Whether this EIR adequately describes the environmental impacts of the proposed project.
- Whether the benefits of the project override those environmental impacts that cannot be feasibly avoided or mitigated to a level of insignificance.
- Whether the proposed land use changes are compatible with the character of the existing area.
- Whether the identified goals, policies, or mitigation measures should be adopted or modified.
- Whether there are other mitigation measures that should be applied to the proposed project besides the mitigation measures identified in the EIR.
- Whether there are any alternatives to the project that would substantially lessen any of the significant impacts of the proposed project and achieve most of the basic project objectives.

1.7 AREAS OF CONTROVERSY

In accordance with Section 15123(b)(2) of the CEQA Guidelines, the EIR summary must identify areas of controversy known to the lead agency, including issues raised by agencies and the public. The County has no knowledge of expressed opposition to the project.

1.8 SUMMARY OF IMPACTS AND MITIGATION MEASURES

Under CEQA, a significant impact on the environment is defined as a substantial, or potentially substantial, adverse change in any of the physical conditions within the area affected by the proposed project. Table 1-1, *Summary of Impacts and Mitigation Measures,* summarizes the conclusions of the environmental analysis contained in this Draft EIR and presents a summary of impacts and mitigations identified.

TABLE 1-1 SUMMARY OF IMPACTS AND MITIGATION MEASURES

Potential Impact	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation
5.1 AESTHETICS			
AES-1: The project would not have a substantial adverse effect on a scenic vista.	Less Than Significant	No mitigation measures are required	Less Than Significant
AES-2: The project would not substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway.	Less Than Significant	No mitigation measures are required	Less Than Significant
AES-3: The project would not substantially degrade the existing visual character or quality of public views in non-urbanized areas nor would the project conflict with applicable zoning and other regulations governing scenic quality in urban areas.	Less Than Significant	No mitigation measures are required	Less Than Significant
AES-4: The project would not generate substantial light or glare that would adversely affect day or nighttime views in the area.	Less Than Significant	No mitigation measures are required	Less Than Significant
5.2 AGRICULTURE AND FORESTRY RESOURCES			
AG-1: The project would 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.	Potentially Significant	There are no feasible mitigation measures	Significant and Unavoidable
AG-2: The project would conflict with existing zoning for agricultural use, or a Williamson Act contract.	Potentially Significant	There are no feasible mitigation measures	Significant and Unavoidable
AG-3: The project would not conflict with existing zoning for, or cause rezoning of, forestland (as defined in Public Resources Code Section 12220(g)), timberland (as defined by Public Resources Code Section 4526), or timberland zoned Timberland Production (as defined by Government Code Section 51104(g)).	No Impact	No mitigation measures are required	No Impact

Potential Impact	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation
AG-4: The project would result in loss of forest land or conversion of forest land to non-forest use.	Potentially Significant	There are no feasible mitigation measures	Significant and Unavoidable
AG-5: The project 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	No mitigation measures are required	Less Than Significant
AG-6: The proposed project, in combination with past, present, and reasonably foreseeable projects, would result in less than significant cumulative impacts with respect to agricultural and forestry resources.	Potentially Significant	There are no feasible mitigation measures	Significant and Unavoidable
5.3 AIR QUALITY			
AQ-1: Implementation of General Plan 2040 and URCP would conflict with or obstruct implementation of the applicable air quality plan.	Potentially Significant	Implement Mitigation Measures AQ-1 and AQ-2.	Significant and Unavoidable
AQ-2: Construction of the proposed project would result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard.	Potentially Significant	**Mitigation Measure AQ-1:** Prior to discretionary approval by Butte County for development projects subject to CEQA (California Environmental Quality Act) review (i.e., non-exempt projects), project applicants shall prepare and submit a technical assessment evaluating potential project construction-related air quality impacts to the Butte County Planning Division for review and approval. The evaluation shall be prepared in conformance with Butte County Air Quality Management District (BCAQMD) methodology for assessing air quality impacts. If construction-related criteria air pollutants are determined to have the potential to exceed the BCAQMD-adopted thresholds of significance, Butte County shall require that applicants for new development projects incorporate mitigation measures to reduce air pollutant emissions during construction activities. These identified measures shall be incorporated into all appropriate construction documents (e.g., construction management plans) submitted to the County and shall be verified by the	Significant and Unavoidable

Potential Impact	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation
		County's Planning Division. Mitigation measures to reduce construction-related emissions could include, but are not limited to: ▪ Using nontoxic soil stabilizers to reduce wind erosion. ▪ Applying water every four hours to active soil-disturbing activities. ▪ Tarping and/or maintaining a minimum of 24 inches of freeboard on trucks hauling dirt, sand, soil, or other loose materials. ▪ Using construction equipment rated by the United States Environmental Protection Agency as having Tier 4 Interim or higher exhaust emission limits, applicable for engines between 50 and 750 horsepower. ▪ Ensuring that construction equipment is properly serviced and maintained to the manufacturer's standards. ▪ Limiting nonessential idling of construction equipment to no more than five consecutive minutes. ▪ Posting signs in the designated queueing areas, entries, and jobs sites reminding drivers of the five minute idling limit. ▪ Limiting onsite vehicle travel speeds on unpaved roads to 15 miles per hour. ▪ Installing wheel washers for all exiting trucks or wash off all trucks and equipment leaving the project area. ▪ Using electric-powered construction equipment where feasible. ▪ Using zero- or low-VOC paints for coating of architectural surfaces.	
AQ-3: Operation of the proposed project would result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard.	Potentially Significant	**Mitigation Measure AQ-2:** Prior to discretionary approval by Butte County for development projects subject to California Environmental Quality Act (CEQA) review (i.e., non-exempt projects), project applicants shall prepare and submit a technical assessment evaluating potential project operation phase-related air quality impacts to the Butte County	Significant and Unavoidable

Potential Impact	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation
		Planning Division for review and approval. The evaluation shall be prepared in conformance with Butte County Air Quality Management District (BCAQMD) methodology in assessing air quality impacts. If operation-related air pollutants are determined to have the potential to exceed the BCAQMD-adopted thresholds of significance, the Butte County Planning Division shall require that applicants for new development projects incorporate mitigation measures to reduce air pollutant emissions during operational activities. The identified measures shall be included as part of the conditions of approval. Possible mitigation measures to reduce long-term emissions can include, but are not limited to the following: ▪ For site-specific development that requires refrigerated vehicles, the construction documents shall demonstrate an adequate number of electrical service connections at loading docks for plug-in of the anticipated number of refrigerated trailers to reduce idling time and emissions. ▪ Applicants for manufacturing and light industrial uses shall consider energy storage and combined heat and power in appropriate applications to optimize renewable energy generation systems and avoid peak energy use. ▪ Site-specific developments with truck delivery and loading areas and truck parking spaces shall include signage as a reminder to limit idling of vehicles while parked for loading/unloading in accordance with Section 2485 of 13 CCR Chapter 10. ▪ Provide changing/shower facilities as specified, at minimum, or greater than in the guidelines in Section A5.106.4.3 of the CALGreen Code (Nonresidential Voluntary Measures). ▪ Provide bicycle parking facilities equivalent to or greater than as specified in Section A4.106.9 (Residential Voluntary Measures) of the CALGreen Code.	

Potential Impact	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation
		▪ Provide preferential parking spaces for low-emitting, fuel-efficient, and carpool/van vehicles equivalent to or greater than Section A5.106.5.1 of the CALGreen Code (Nonresidential Voluntary Measures). ▪ Provide facilities to support electric charging stations per Section A5.106.5.3 (Nonresidential Voluntary Measures) and Section A4.106.8.2 (Residential Voluntary Measures) of the CALGreen Code. ▪ Applicant-provided appliances shall be Energy Star-certified appliances or appliances of equivalent energy efficiency (e.g., dishwashers, refrigerators, clothes washers, and dryers). Installation of Energy Star-certified or equivalent appliances shall be verified by Building & Safety during plan check. ▪ Applicants for future development projects along existing and planned transit routes shall coordinate with the Butte County and Butte Regional Transit to ensure that bus pad and shelter improvements are incorporated, as appropriate. ▪ Applicants for future development projects shall use paints with a VOC content lower than required under BCAQMD Rule 230.	
AQ-4: Construction of the proposed project would not expose sensitive receptors to substantial pollutant concentrations with incorporation of mitigation.		**Mitigation Measure AQ-3:** Applicants for construction within 1,000 feet of residential and other sensitive land use projects (e.g., hospitals, nursing homes, day care centers, and elementary schools) in the unincorporated County, as measured from the property line of the project to the property line of the source/edge of the nearest travel lane, shall submit a health risk assessment (HRA) to the Butte County Planning Division prior to future discretionary project approval. The HRA shall be prepared in accordance with policies and procedures of the Office of Environmental Health Hazard Assessment (OEHHA) and the Butte County Air Quality Management District. The latest OEHHA	Less Than Significant

Potential Impact	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation
		guidelines shall be used for the analysis, including age sensitivity factors, breathing rates, and body weights appropriate for children ages 0 to 16 years. If the HRA shows that the incremental cancer risk exceeds ten in one million (10E-06), $PM_{2.5}$ concentrations exceed 0.3 µg/m^3, or the appropriate noncancer hazard index exceeds 1.0, the applicant will be required to identify and demonstrate that mitigation measures are capable of reducing potential cancer and non-cancer risks to an acceptable level (i.e., below ten in one million or a hazard index of 1.0), including appropriate enforcement mechanisms. Measures to reduce risk may include, but are not limited to: ▪ During construction, use construction equipment rated as US EPA Tier 4 Interim for equipment of 50 horsepower or more. ▪ During construction, use of construction equipment fitted with Level 3 Diesel Particulate Filters for all equipment of 50 horsepower or more. Measures identified in the HRA shall be included in the environmental document and/or incorporated into the site development plan as a component of the proposed project. Prior to issuance of any construction permit, the construction contractor shall ensure that all construction plans submitted to the Butte County Planning Division clearly show incorporation of all applicable mitigation measures.	
AQ-5: Operation of non-permitted sources accommodated under General Plan 2040 would expose sensitive receptors to substantial pollutant concentrations of toxic air contaminants.	Potentially Significant	**Mitigation Measure AQ-4:** Prior to discretionary approval by the Butte County, project applicants for new industrial or warehousing development projects that 1) have the potential to generate 100 or more diesel truck trips per day or have 40 or more trucks with operating diesel-powered transport refrigeration units, and 2) are within 1,000 feet of a sensitive land use (e.g., residential, schools, hospitals, or nursing homes), as measured from the property line of the project to the property line of the nearest sensitive use, shall	Significant and Unavoidable

Potential Impact	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation
		submit a health risk assessment (HRA) to the Butte County Planning Division for review and approval. The HRA shall be prepared in accordance with policies and procedures of the state Office of Environmental Health Hazard Assessment and the Butte County Air Quality Management District (BCAQMD). If the HRA shows that the incremental cancer risk and/or noncancer hazard index exceed the respective thresholds, as established by the BCAQMD at the time a project is considered, the project applicant will be required to identify and demonstrate that best available control technologies for toxics (T-BACTs), including appropriate enforcement mechanisms, are capable of reducing potential cancer and noncancer risks to an acceptable level. T-BACTs may include, but are not limited to, restricting idling onsite or electrifying warehousing docks to reduce diesel particulate matter, or requiring use of newer equipment and/or vehicles. T-BACTs identified in the HRA shall be identified as mitigation measures in the environmental document and/or incorporated into the site plan.	
AQ-6: General Plan 2040 would result in other emissions (such as those leading to odors) adversely affecting a substantial number of people.	Potentially Significant	**Mitigation Measure AQ-5:** Prior to project approval, if it is determined during project-level environmental review that a project has the potential to emit nuisance odors beyond the property line, an odor management plan shall be prepared and submitted by the project applicant prior to project approval to ensure compliance with Butte County Air Quality Management District Rule 200, *Nuisance*. The following facilities that are within the buffer distances specified from sensitive receptors (in parentheses) have the potential to generate substantial odors: ▪ Wastewater Treatment Plant (2 miles) ▪ Wastewater Pumping Facilities (1 mile) ▪ Sanitary Landfill (1 mile) ▪ Transfer Station (1 mile) ▪ Composting Facility (2 miles)	Significant and Unavoidable

Potential Impact	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation
		▪ Petroleum Refinery (2 miles) ▪ Asphalt Batch Plant (2 miles) ▪ Chemical Manufacturing (1 mile) ▪ Fiberglass Manufacturing (1 mile) ▪ Painting/Coating Operations (1 mile) ▪ Rendering Plant (4 miles) ▪ Coffee Roaster (1 mile) ▪ Food Processing Facility (1 mile) ▪ Feed Lot/ Dairy (1 mile) ▪ Green Waste and Recycling Operations (2 miles) ▪ Metal Smelting Plants (1 mile) The Odor Management Plan prepared for these facilities shall identify control technologies that will be utilized to reduce potential odors to acceptable levels, including appropriate enforcement mechanisms. Control technologies may include, but are not limited to scrubbers (e.g., air pollution control devices) at an industrial facility. Control technologies identified in the odor management plan shall be identified as mitigation measures in the environmental document and/or incorporated into the site plan.	
AQ-7: The proposed project, in combination with past, present, and reasonably foreseeable projects, would result in significant cumulative impacts with respect to air quality.	Potentially Significant	Implement Mitigation Measures AQ-1, AQ-2, AQ-3, AQ-4, and AQ-5.	Significant and Unavoidable
5.4 BIOLOGICAL RESOURCES			
BIO-1: The proposed project would not have a substantial adverse effect, either directly or through habitat modifications, on species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations by the California Department of Fish and Wildlife or United States Fish and Wildlife Service.	Less Than Significant	No mitigation measures are required	Less Than Significant

Potential Impact	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation
BIO-2: The proposed project would not have a substantial adverse effect on any riparian habitat, but it could have a substantial adverse effect on other sensitive natural communities identified in local or regional plans, policies, or regulations or by the California Department of Fish and Wildlife or United States Fish and Wildlife Service.	Less Than Significant	No mitigation measures are required	Less Than Significant
BIO-3: The proposed project would not have a substantial adverse effect on state or federally protected wetlands (marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means.	Less Than Significant	No mitigation measures are required	Less Than Significant
BIO-4: The proposed project would not interfere with the movement of a 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	No mitigation measures are required	Less Than Significant
BIO-5: The proposed project would not conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.	Less Than Significant	No mitigation measures are required	Less Than Significant
BIO-6: The project would not conflict with an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other habitat conservation plans.	Less Than Significant	No mitigation measures are required	Less Than Significant
BIO-7: The project, in combination with past, present, and reasonably foreseeable projects, would result in significant and unavoidable cumulative impacts with respect to biological resources.	Potentially Significant	There are no feasible mitigation measures	Significant and Unavoidable
5.5 CULTURAL RESOURCES			
CUL-1: The project would not cause a substantial adverse change in the significance of a historical resource pursuant to Section 15064.5.	Less Than Significant	No mitigation measures are required	Less Than Significant

Potential Impact	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation
CUL-2: The project would not cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5.0	Less Than Significant	No mitigation measures are required	Less Than Significant
CUL-3: The project would not disturb any human remains, including those interred outside of dedicated cemeteries.	Less Than Significant	No mitigation measures are required	Less Than Significant
CUL-4: The project would not cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code Sections, 21074, 5020.1(k), or 5024.1.	Less Than Significant	No mitigation measures are required	Less Than Significant
CUL-5: The project, in combination with past, present, and reasonably foreseeable projects, would result in less-than-significant cumulative impacts with respect to cultural resources.	Less Than Significant	No mitigation measures are required	Less Than Significant
5.6 ENERGY			
ENE-1: The project would not result in a significant environmental impact from wasteful, inefficient, or unnecessary consumption of energy resources during project construction or operation.	Less Than Significant	No mitigation measures are required	Less Than Significant
ENE-2: The project would not conflict with or obstruct a State or local plan for renewable energy or energy efficiency.	Less Than Significant	No mitigation measures are required	Less Than Significant
ENE-3: The project, in combination with past, present, and reasonably foreseeable projects, would result in less-than-significant cumulative impacts with respect to energy.	Less Than Significant	No mitigation measures are required	Less Than Significant
5.7 GEOLOGY AND SOILS			
GEO-1: The project would not exacerbate hazards from surface rupture of a known active fault, strong seismic ground shaking, seismic-related ground failure, or landslides.	Less than significant	No mitigation measures are required	Less than significant

Potential Impact	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation
GEO-2: The project would not result in substantial soil erosion or the loss of topsoil.	Less than significant	No mitigation measures are required	Less than significant
GEO-3: The project would not result in a significant impact related to development 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	No mitigation measures are required	Less than significant
GEO-4: The project would not create substantial risks to life or property as a result of its location on expansive soil, as defined in Section 1803.5.3 of the California Building Code, creating substantial direct or indirect risks to life or property.	Less than significant	No mitigation measures are required	Less than significant
GEO-5: Project development would use alternative wastewater disposal systems.	Less than significant	No mitigation measures are required	Less than significant
GEO-6: The project would not directly or indirectly destroy a unique paleontological resource or site or unique geologic feature.	Potentially Significant	Mitigation Measure GEO-1: High Sensitivity. Projects involving ground disturbances in previously undisturbed areas mapped as having "high" paleontological sensitivity shall be monitored by a qualified paleontological monitor during all ground disturbing activities. Monitoring shall include inspection of exposed sedimentary units during active excavations within sensitive geologic sediments. The monitor shall have authority to temporarily divert activity away from exposed fossils to evaluate the significance of the find and, if the fossils are determined to be significant, professionally and efficiently recover the fossil specimens and collect associated data. The paleontological monitor shall use field data forms to record pertinent location and geologic data, measure stratigraphic sections (if applicable), and collect appropriate sediment samples from any fossil localities. Mitigation Measure GEO-2: Low-to-High Sensitivity. Prior to issuance of a grading permit for projects involving ground disturbance in previously undisturbed areas mapped with "low-to-high" paleontological sensitivity, the project	Less than significant

Potential Impact	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation
		applicant shall consult with a geologist or paleontologist to confirm whether the grading would occur at depths that could encounter highly sensitive sediments for paleontological resources. If confirmed that underlying sediments may have sensitivity, construction activity shall be monitored by a qualified paleontologist. The paleontologist shall have the authority to halt construction during ground disturbing activities as outlined in Mitigation Measure GEO-3. **Mitigation Measure GEO-3:** All Projects. In the event of any fossil discovery, regardless of depth or geologic formation, ground disturbing activities shall halt within a 50-foot radius of the find until its significance can be determined by a qualified paleontologist. Significant fossils shall be recovered, prepared to the point of curation, identified by qualified experts, listed in a database to facilitate analysis, and deposited in a designated paleontological curation facility in accordance with the standards of the Society of Vertebrate Paleontology. The repository shall be identified, and a curatorial arrangement shall be signed prior to collection of the fossils.	
GEO-7: The project, in combination with past, present, and reasonably foreseeable projects, would result in less than significant cumulative impacts with respect to geology and soils.	Less than significant	No mitigation measures are required	Less than significant
5.8 GREENHOUSE GAS EMISSIONS			
GHG-1: The General Plan Update and the URCP would generate GHG emissions, either directly or indirectly, that may have a significant effect on the environment.	Potentially Significant	**Mitigation Measure GHG-1:** The County shall prepare and update its next regularly planned update to the Climate Action Plan (CAP) per the schedule (within five years or sooner) established under Implementation Strategy 4 of the Butte County 2021 CAP, to achieve, or move towards achieving a GHG reduction target consistent with the Assembly Bill 1279 GHG reduction target of 85 percent of	Significant and Unavoidable

Potential Impact	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation
		1990 levels by 2045. The CAP update shall include the following: ▪ GHG inventories of existing and forecast-year GHG levels. ▪ Tools and strategies for reducing GHG emissions to ensure a trajectory with the long-term GHG reduction target of AB 1279. ▪ Plan implementation guidance that includes, at minimum, the following components consistent with the updated CAP: o Administration and Staffing o Finance and Budgeting o Timelines for Measure Implementation o Community Outreach and Education o Monitoring, Reporting, and Adaptive Management o Tracking Tools	
GHG-2: The project would not conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases.	Less than significant	No mitigation measures are required	Less than significant
GHG-3: Implementation of the proposed project would, in combination with past, present, and reasonably foreseeable projects, result in a cumulative impact with respect to GHG emissions.	Potentially Significant	Implement Mitigation Measure GHG-1.	Significant and Unavoidable
5.9 HAZARDS AND HAZARDOUS RESOURCES			
HAZ-1: The proposed project would not create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials.	Less Than Significant	No mitigation measures are required	Less Than Significant
HAZ-2: The project would not 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.	Less Than Significant	No mitigation measures are required	Less Than Significant

Potential Impact	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation
HAZ-3: The proposed project would not emit hazardous emissions or handle hazardous materials, substances, or waste within ¼-mile of an existing or proposed school.	Less Than Significant	No mitigation measures are required	Less Than Significant
HAZ-4: The project would not create a significant hazard to the public or the environment by being located on a site that is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5.	Less Than Significant	No mitigation measures are required	Less Than Significant
HAZ-5: The project would not be located within an airport land use plan or, where such a plan has not been adopted, within 2 miles of a public airport or public use airport, resulting in a safety hazard or excessive noise for people residing or working in the project area.	No Impact	No mitigation measures are required	No Impact
HAZ-6: The proposed project could impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.	Potentially Significant	**Mitigation Measure HAZ-1:** Project applicants for development in the Upper Ridge Community Plan area shall prepare a Traffic Control Plan to ensure that construction equipment or activities do not block roadways during the construction period. The Traffic Control Plan shall be submitted to the Butte County Fire Department and Sheriff's Office for review and approval prior to approval of building permits.	Less Than Significant
HAZ-7: The project would not expose people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires.	Less Than Significant	No mitigation measures are required	Less Than Significant
HAZ-8: The project, in combination with past, present, and reasonably foreseeable projects, would not result in less than significant cumulative impacts with respect to hazards and hazardous materials.	Less Than Significant	No mitigation measures are required	Less Than Significant

Potential Impact	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation
5.10 HYDROLOGY AND WATER QUALITY			
HYD-1: The project would not violate water quality standards or waste discharge requirements or otherwise degrade surface water or groundwater.	Less Than Significant	No mitigation measures are required	Less Than Significant
HYD-2: The project would not substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin.	Less Than Significant	No mitigation measures are required	Less Than Significant
HYD-3: The project would not result in significant impacts associated with the substantial alteration of 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 that would: i) result in substantial erosion or siltation on- or off-site; ii) substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site, iii) 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 iv) impede or redirect flood flows.	Less Than Significant	No mitigation measures are required	Less Than Significant
HYD-4: The proposed project would not, in a flood hazard, tsunami, or seiche zones, risk release pollutants due to project inundation.	Less Than Significant	No mitigation measures are required	Less Than Significant
HYD-5: The project would not conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan.	Less Than Significant	No mitigation measures are required	Less Than Significant
HYD-6: The project, in combination with past, present, and reasonably foreseeable projects, would result in less-than-significant cumulative impacts with respect to hydrology and water quality.	Less Than Significant	No mitigation measures are required	Less Than Significant

Potential Impact	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation
5.11 LAND USE AND PLANNING			
LU-1: The project would not physically divide an established community.	Less Than Significant	No mitigation measures are required	Less Than Significant
LU-2: The project would not conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect.	Less Than Significant	No mitigation measures are required	Less Than Significant
LU-3: The project, in combination with past, present, and reasonably foreseeable projects, would result in less-than-significant cumulative impacts with respect to land use and planning.	Less Than Significant	No mitigation measures are required	Less Than Significant
5.12 MINERAL RESOURCES			
MR-1: The proposed project would not result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state.	Less Than Significant	No mitigation measures are required	Less Than Significant
MR-2: The proposed project 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	No mitigation measures are required	Less Than Significant
MR-3: The proposed project, in combination with past, present, and reasonably foreseeable projects, would not result in less-than-significant cumulative impacts with respect to mineral resources.	Less Than Significant	No mitigation measures are required	Less Than Significant
5.13 NOISE			
NOI-1: Implementation of the project would result in the generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or in other applicable local, state, or federal standards.	Potentially Significant	**Mitigation Measure NOI-1:** The construction contractors shall implement the following measures for construction activities conducted in Butte County. Construction plans submitted to the County shall identify these measures on demolition, grading, and construction plans submitted to the County, and the County's Planning and Building Department(s) shall verify that submitted grading, demolition, and/or construction plans include these	Significant and Unavoidable

Potential Impact	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation
		notations prior to issuance of demolition, grading, and/or building permits: ▪ Construction activity is limited to the daytime hours exempted in the County Code, Chapter 41A, Noise Control, and by Policy HS-P1.7, and shall adhere to Construction control noise measures in Policy HS-P1.9. ▪ During the entire active construction period, equipment and trucks used for project construction shall use the best-available noise control techniques (e.g., improved mufflers, equipment redesign, use of intake silencers, ducts, engine enclosures, and acoustically attenuating shields or shrouds). ▪ Impact tools (e.g., jack hammers and hoe rams) shall be hydraulically or electrically powered wherever possible. Where the use of pneumatic tools is unavoidable, an exhaust muffler on the compressed air exhaust shall be used along with external noise jackets on the tools. ▪ Stockpiling shall be located as far as feasible from nearby noise-sensitive receptors. ▪ Construction traffic shall be limited, to the extent feasible, to approved haul routes established by the County Planning and Building Department(s). ▪ At least 10 days prior to the start of construction activities, a sign shall be posted at the entrance(s) to the job site, clearly visible to the public, that includes permitted construction days and hours, as well as the telephone numbers of the County's and contractor's authorized representatives that are assigned to respond in the event of a noise or vibration complaint. If the authorized contractor's representative receives a complaint, they shall investigate, take appropriate corrective action, and report the action to the County.	

Potential Impact	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation
		▪ Signs shall be posted at the job site entrance(s), within the on-site construction zones, and along queueing lanes (if any) to reinforce the prohibition of unnecessary engine idling. All other equipment shall be turned off if not in use for more than 5 minutes. ▪ During the entire active construction period and to the extent feasible, the use of noise-producing signals, including horns, whistles, alarms, and bells, shall be for safety warning purposes only. The construction manager shall use smart back-up alarms, which automatically adjust the alarm level based on the background noise level or switch off back-up alarms and replace with human spotters in compliance with all safety requirements and laws. ▪ Erect temporary noise barriers (at least as high as the exhaust of equipment and breaking line-of-sight between noise sources and sensitive receptors), as necessary and feasible, to maintain construction noise levels at or below the performance standard of 80 dBA Leq. Barriers shall be constructed with a solid material that has a density of at least 4 pounds per square foot with no gaps from the ground to the top of the barrier.	
NOI-2: The project would potentially expose future receptors to excessive groundborne vibration or groundborne noise levels.	Potentially Significant	**Mitigation Measure NOI-2:** Prior to issuance of a building permit for a project requiring pile driving during construction within 135 feet of fragile structures, such as historical resources; within 100 feet of nonengineered timber and masonry buildings (e.g., most residential buildings), or within 75 feet of engineered concrete and masonry (no plaster), or a vibratory roller within 25 feet of any structure, the project applicant shall prepare a noise and vibration analysis to assess and mitigate potential noise and vibration impacts related to these activities. This noise and vibration analysis shall be conducted by a qualified and experienced acoustical consultant or engineer. The vibration levels shall not exceed	Less Than Significant

Potential Impact	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation
		Federal Transit Administration (FTA) architectural damage thresholds (e.g., 0.12 inches per second [in/sec] peak particle velocity [PPV] for fragile or historical resources, 0.2 in/sec PPV for nonengineered timber and masonry buildings, and 0.3 in/sec PPV for engineered concrete and masonry). If vibration levels would exceed this threshold, alternative uses shall be used—such as drilling piles instead of pile driving, and static rollers instead of vibratory rollers. If necessary, construction vibration monitoring shall be conducted to ensure vibration thresholds are not exceeded. **Mitigation Measure NOI-3:** During the project-level California Environmental Quality Act (CEQA) process for industrial developments under the General Plan Update or other projects that could generate substantial vibration levels near sensitive uses, a noise and vibration analysis shall be conducted to assess and mitigate potential noise and vibration impacts related to the operations of that individual development. This noise and vibration analysis shall be conducted by a qualified and experienced acoustical consultant or engineer and shall follow the latest CEQA guidelines, practices, and precedents. New residential projects (or other noise-sensitive uses) within 200 feet of existing railroad lines shall be required to conduct a groundborne vibration and noise evaluation consistent with Federal Transit Administration (FTA)–approved methodologies.	
NOI-3: Implementation of the project would not expose people residing or working within two miles of a private airstrip or airport to excessive noise levels.	Less Than Significant	No mitigation measures are required	Less Than Significant
NOI-4: Buildout of the project, in combination with past, present, and reasonably foreseeable projects, would result in potentially significant cumulative impacts with respect to noise.	Potentially Significant	There are no feasible mitigation measures	Significant and Unavoidable

Potential Impact	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation
5.14 POPULATION AND HOUSING			
PH-1: The project would not induce substantial unplanned population growth in an area, either directly or indirectly.	Less Than Significant	No mitigation measures are required	Less Than Significant
PH-2: The project would not displace substantial numbers of existing people or housing units, necessitating the construction of replacement housing elsewhere.	Less Than Significant	No mitigation measures are required	Less Than Significant
PH-3: The project, in combination with past, present, and reasonably foreseeable projects, would result in less-than-significant cumulative impacts with respect to population and housing.	Less Than Significant	No mitigation measures are required	Less Than Significant
5.15 PUBLIC SERVICES AND RECREATION			
PS-1: The project would not result in the need for new or physically altered fire protection and emergency medical facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives.	Less Than Significant	No mitigation measures are required	Less Than Significant
PS-2: The project, in combination with past, present, and reasonably foreseeable projects, would not result in less-than-significant cumulative impacts with respect to fire protection services.	Less Than Significant	No mitigation measures are required	Less Than Significant
PS-3: The project would not result in the need for new or physically altered police facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives.	Less Than Significant	No mitigation measures are required	Less Than Significant
PS-4: The proposed project, in combination with past, present, and reasonably foreseeable projects, would not result in less-than-significant cumulative impacts with respect to police services.	Less Than Significant	No mitigation measures are required	Less Than Significant

Potential Impact	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation
PS-5: The project would not result in the need for new or physically altered school facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios or other performance objectives.	Less Than Significant	No mitigation measures are required	Less Than Significant
PS-6: The project, in combination with past, present, and reasonably foreseeable projects, would result in less than significant cumulative impacts with respect to school services.	Less Than Significant	No mitigation measures are required	Less Than Significant
PS-7: The project would not result in the need for new or physically altered public facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios or other performance objectives.	Less Than Significant	No mitigation measures are required	Less Than Significant
PS-8: The project, in combination with past, present, and reasonably foreseeable projects, would result in less-than-significant cumulative impacts with respect to the construction of other public facilities.	Less Than Significant	No mitigation measures are required	Less Than Significant
PS-9: The project would not increase the use of existing neighborhood and regional parks or other recreational facilities, such that substantial physical deterioration of the facility would occur or be accelerated.	Less Than Significant	No mitigation measures are required	Less Than Significant
PS-10: The project would not include recreational facilities or require the construction or expansion of additional recreational facilities which might have an adverse physical effect on the environment.	Less Than Significant	No mitigation measures are required	Less Than Significant
PS-11: The proposed project, in combination with past, present, and reasonably foreseeable projects, would not result in less-than-significant cumulative impacts with respect parks.	Less Than Significant	No mitigation measures are required	Less Than Significant

Potential Impact	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation
5.16 TRANSPORTATION			
TRANS-1: The proposed project would not conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities.	Less Than Significant	No mitigation measures are required	Less Than Significant
TRANS-2: The proposed project would not conflict with or be inconsistent with CEQA Guidelines Section 15064.3(b)	Less Than Significant	No mitigation measures are required	Less Than Significant
TRANS-3: The proposed project would not substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment).	Less Than Significant	No mitigation measures are required	Less Than Significant
TRANS-4: The proposed project would not result in inadequate emergency access.	Less Than Significant	No mitigation measures are required	Less Than Significant
TRANS-5: The proposed project, in combination with past, present, and reasonably foreseeable projects, would result in less-than-significant cumulative impacts with respect to transportation.	Less Than Significant	No mitigation measures are required	Less Than Significant
5.17 UTILITIES AND SERVICE SYSTEMS			
UTIL-1: Implementation of the proposed project would not require or result in the construction of new water facilities or expansion of existing facilities, the construction of which would cause significant environmental effects.	Less Than Significant	No mitigation measures are required	Less Than Significant
UTIL-2: Implementation of the proposed project would result in sufficient water supplies available to serve the proposed project and reasonably foreseeable future during normal, dry, and multiple dry years.	Less Than Significant	No mitigation measures are required	Less Than Significant
UTIL-3: Implementation of the proposed project, in combination with past, present, and reasonably foreseeable projects, would result in less-than-significant cumulative impacts with respect to water service.	Less Than Significant	No mitigation measures are required	Less Than Significant

Potential Impact	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation
UTIL-4: Implementation of the proposed project would not result in the construction of new wastewater treatment facilities.	Less Than Significant	No mitigation measures are required	Less Than Significant
UTIL-5: Implementation of the proposed project would connect to the public sewer system and would not impact the wastewater treatment provider.	Less Than Significant	No mitigation measures are required	Less Than Significant
UTIL-6: Implementation of the proposed project, in combination with past, present, and reasonably foreseeable projects would result in less-than-significant cumulative impacts with respect to wastewater service.	Less Than Significant	No mitigation measures are required	Less Than Significant
UTIL-7: Implementation of the proposed project would result in the Specific Plan Area being served by a landfill with sufficient permitted capacity to accommodate the proposed project's solid waste disposal needs.	Less Than Significant	No mitigation measures are required	Less Than Significant
UTIL-8: Implementation of the proposed project would comply with federal, state, and local statutes and regulations related to solid waste.	Less Than Significant	No mitigation measures are required	Less Than Significant
UTIL-9: Implementation of the proposed project, in combination with past, present, and reasonably foreseeable development, would not result in significant impacts with respect to solid waste.	Less Than Significant	No mitigation measures are required	Less Than Significant
UTIL-10: Implementation of the proposed project could require or result in the construction of new stormwater drainage facilities or expansion of existing facilities, the construction of which would cause significant environmental effects.	Less Than Significant	No mitigation measures are required	Less Than Significant
UTIL-11: Implementation of the proposed project, in combination with past, present, and reasonably foreseeable projects, would result in less-than-significant cumulative impacts with respect to stormwater infrastructure.	Less Than Significant	No mitigation measures are required	Less Than Significant
5.18 WILDFIRE			

Potential Impact	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation
WILD-1: If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, the project would not substantially impair an adopted emergency response plan or emergency evacuation plan.	Potentially Significant	**Mitigation Measure WILD-1:** Project applicants for development in the Upper Ridge Community Plan area shall prepare a Traffic Control Plan to ensure that construction equipment or activities do not block roadways during the construction period. The Traffic Control Plan shall be submitted to the Butte County Fire Department and Sheriff's Office for review and approval prior to approval of building permits.	Less Than Significant
WILD-2: If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, the project, due to slope, prevailing winds, and other factors, could exacerbate wildfire risks, and thereby expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of wildfire.	Potentially Significant	Implement Mitigation Measure WILD-1	Significant and Unavoidable
WILD-3: If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, the project would require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines, or other utilities) that would not exacerbate fire risk or that may result in temporary or ongoing impacts to the environment.	Less Than Significant	No mitigation measures are required	Less Than Significant
WILD-4: If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, the project would not 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	No mitigation measures are required	Less Than Significant
WILD-5: The project, in combination with past, present, and reasonably foreseeable projects, would result in less-than-significant cumulative impacts with respect to wildfire.	Potentially Significant	Implement Mitigation Measure WILD-1	Significant and Unavoidable

2. *Introduction*

This Draft Environmental Impact Report (EIR) has been prepared in accordance with the California Environmental Quality Act (CEQA) with Butte County as the lead agency. This Draft EIR assesses the potential environmental consequences of implementing the Butte County General Plan Update (hereby referred to as the "proposed project") and identifies mitigation measures and alternatives to the proposed project that would avoid or reduce significant impacts. This Draft EIR is intended to inform decision makers, responsible agencies, and the public about the nature of the proposed project's environmental impacts.

2.1 PROPOSED PROJECT

Pursuant to CEQA Guidelines Section 15063, Butte County determined that the proposed project could result in potentially significant environmental impacts and that an EIR would be required. The goals of the proposed project are to support Camp Fire and North Complex Fire recovery; address current and future needs of Butte County; comply with State regulations that changed since adoption of the current General Plan; and engage community members as key decision makers for adaptation, community resilience, public safety, and environmental justice. For a more detailed analysis of the proposed project components, refer to Chapter 3, *Project Description,* of this Draft EIR and the text of the Draft General Plan available on the County's website: https://www.buttecounty.net/dds/generalplanupdate.

2.2 EIR SCOPE

This DEIR fulfills the requirements for a Program EIR. Although the legally required contents of a Program EIR are the same as for a Project EIR, Program EIRs are typically more conceptual than Project EIRs, with a more general discussion of impacts, alternatives, and mitigation measures with a focus on defining subsequent actions that will be needed before projects can move forward. According to Section 15168 of the CEQA Guidelines, a Program EIR may be prepared on a series of actions that can be characterized as one large project. Use of a Program EIR gives the lead agency an opportunity to consider broad policy alternatives and program-wide mitigation measures, as well as greater flexibility to address project-specific and cumulative environmental impacts on a comprehensive scale.

Agencies prepare Program EIRs for programs or a series of related actions that are linked geographically; logical parts of a chain of contemplated events, rules, regulations, or plans that govern the conduct of a continuing program; or individual activities carried out under the same authority and having generally similar environmental effects that can be mitigated in similar ways.

Once a Program EIR has been prepared, subsequent activities within the program must be evaluated to determine whether an additional CEQA document is necessary. However, if the Program EIR addresses the program's effects as specifically and comprehensively as possible, many subsequent activities may be within the Program EIR's scope, and additional environmental documents may not be required (CEQA Guidelines

Section 15168[c]). When a lead agency relies on a Program EIR for a subsequent activity, it must incorporate feasible mitigation measures and alternatives from the Program EIR into the subsequent activities (CEQA Guidelines Section 15168[c][3]). If a subsequent activity would have effects outside the scope of the Program EIR, the lead agency must prepare a new Initial Study leading to a Negative Declaration, Mitigated Negative Declaration, or an EIR. Even in this case, the Program EIR still serves a valuable purpose as the first-tier environmental analysis. The CEQA Guidelines (Section 15168[h]) encourage the use of Program EIRs, citing five advantages that a Program EIR can:

- Provide a more exhaustive consideration of impacts and alternatives than would be practical in an individual EIR;
- Focus on cumulative impacts that might be slighted in a case-by-case analysis;
- Avoid continual reconsideration of recurring policy issues;
- Consider broad policy alternatives and programmatic mitigation measures at an early stage when the agency has greater flexibility to deal with them;
- Reduce paperwork by encouraging the reuse of data (through tiering).

For a complete listing of environmental topics covered in this Draft EIR, see Chapter 5, *Environmental Analysis*.

2.3 ENVIRONMENTAL REVIEW PROCESS

2.3.1 NOTICE OF PREPARATION

Butte County issued a Notice of Preparation (NOP) on October 7, 2022. A scoping meeting was held on October 26, 2022, to receive oral comments and the CEQA-mandated scoping period for this EIR was held from October 7, 2022, to November 7, 2022, during which time agencies and the public could submit comments about environmental concerns regarding the proposed project to be addressed in the EIR. During this time, Butte County received comment letters from State agencies and a member of the public (see Appendix 2-1 for all comment letters received). The comments received are summarized in Table 2-1, *NOP Comment Summary.*

TABLE 2-1 NOP COMMENT SUMMARY

Commenting Agency/Person	Date	Comment Topic	Issue Addressed In:
Public Agencies			
Native American Heritage Commission	October 11, 2022	Outlines the procedure and requirements of AB 52 and SB 18.	Section 5.5, *Cultural Resources and Tribal and Cultural Resources*
Department of Toxic Substances Control	November 4, 2022	Includes recommendations for issues to evaluate in the Hazards and Hazardous Materials section of the EIR.	Section 5.9, *Hazards and Hazardous Materials*.
State Department of Fish and Wildlife	November 7, 2022	Offers recommendations for the assessment of biological resources.	Section 5.4, *Biological Resources.*
Public			
Jamie Kern	October 26, 2022	Emphasizes importance of fuel reduction programs	Section 5.18, *Wildfire*

2.3.2 DRAFT EIR

Pursuant to CEQA Guidelines Section 15063, Butte County decided to do a comprehensive EIR because of the public's interest in the proposed project and potential environmental impacts. In compliance with Section 21080.4 of the California Public Resources Code, Butte County circulated the NOP for the proposed project to the Office of Planning and Research (OPR) State Clearinghouse and interested agencies and persons on October 7, 2022, for a 30-day review period. A scoping meeting for the proposed project was held on October 26, 2022. The NOP solicited comments from identified responsible and trustee agencies, as well as interested parties regarding the scope of the Draft EIR. Appendix 2-1 of this Draft EIR contains the NOP as well as the comments received by Butte County in response to the NOP and during the scoping meeting. This Draft EIR will be available for review by the public and interested parties, agencies, and organizations for a 45-day comment period from January 6, 2023 through February 21, 2023. During the Draft EIR comment period, all are invited to submit written or email comments on the Draft EIR to:

Mark Michelena, Senior Planner
Butte County
Planning Division
7 County Center Drive
Oroville, CA 95965
mmichelena@buttecounty.net

2.3.3 FINAL EIR

Upon completion of the 45-day Draft EIR review period, Butte County will review written comments received and prepare written responses to each comment. A Final EIR will then be prepared incorporating all the comments received, responses to the comments, and any changes to the Draft EIR that result from the comments received. The Final EIR will then be presented to the Butte County Planning Commission for recommendation of certification as the environmental document for the proposed project. All persons who commented on the Draft EIR will be notified of the availability of the Final EIR and the date of the public hearing before the Butte County Planning Commission.

All responses to comments submitted on the Draft EIR by agencies will be provided to those agencies at least 10 days prior to the hearing on EIR certification. The Butte County Planning Commission will make findings regarding the extent and nature of the impacts as presented in the Final EIR. The Butte County Planning Commission may find that the mitigation measures are outside the jurisdiction of the County or that there are no feasible mitigation measures for a given significant impact. In these cases, the County may nonetheless determine that the proposed project is necessary or desirable due to specific overriding considerations and may adopt a Statement of Overriding Considerations to ultimately approve the proposed project.

2.3.4 MITIGATION MONITORING

Public Resources Code Section 21081.6 requires that the lead agency adopt a mitigation monitoring and reporting program (MMRP) for any project for which it has made findings pursuant to Public Resources Code Section 21081. Such a program is intended to ensure the implementation of all mitigation measures adopted through the preparation of an EIR. The MMRP for the proposed project will be completed as part of the Final EIR.

3. *Project Description*

This Environmental Impact Report (EIR) provides an assessment of the Public Review Draft Butte County General Plan 2040. General Plan 2040 is intended to provide the control and regulation necessary to ensure that growth in Butte County occurs in an orderly fashion.

Butte County General Plan 2040 includes an update of the Housing Element, which was last fully updated in 2014. The Housing Element was based on the current General Plan land use map. The County has proposed revisions to the Housing Element in order to bring it into conformance with General Plan 2040 and the requirements of State law. The Housing Element analyzed by this EIR is based on the proposed land use map that is included in General Plan 2040.

The 2040 General Plan is updating six elements (main focus elements):

- Circulation Element
- Environmental Justice Element (New Element)
- Health and Safety Element
- Housing Element
- Land Use Element
- Water Resources Element

Other elements of the current General Plan will be revised to ensure consistency with the updated elements:

- Area and Neighborhood Plans Element
- Agricultural Element
- Conservation and Open Space Element
- Economic Development Element
- Public Facilities and Services Element

The goals, policies, and actions in General Plan 2040 would guide development and conservation in Butte County through 2040.

The General Plan Update includes the Upper Ridge Community Plan (URCP), which is an area composed of eight distinct neighborhoods in the Upper Ridge area, as well as open spaces within and adjacent to the neighborhoods. Each neighborhood in the URCP area has a unique community character influenced by factors such as access points, geography, land uses, building types, development densities, and street characteristics. The URCP sets a community-supported, long-term vision promoting a thriving, resilient, and

sustainable Upper Ridge region. The URCP provides implementable strategies and design concepts to help guide development in the area.

This chapter of the Draft EIR describes the proposed Butte County General Plan Update ("proposed project"). The proposed project would ensure the County complies with current State regulations and would address the current and future needs of Butte County. This chapter provides an overview of the proposed project. For information on the project background, planning process, and existing conditions in Butte County, refer to the environmental setting contained in each of the technical sections in Chapter 4 of this Draft EIR.

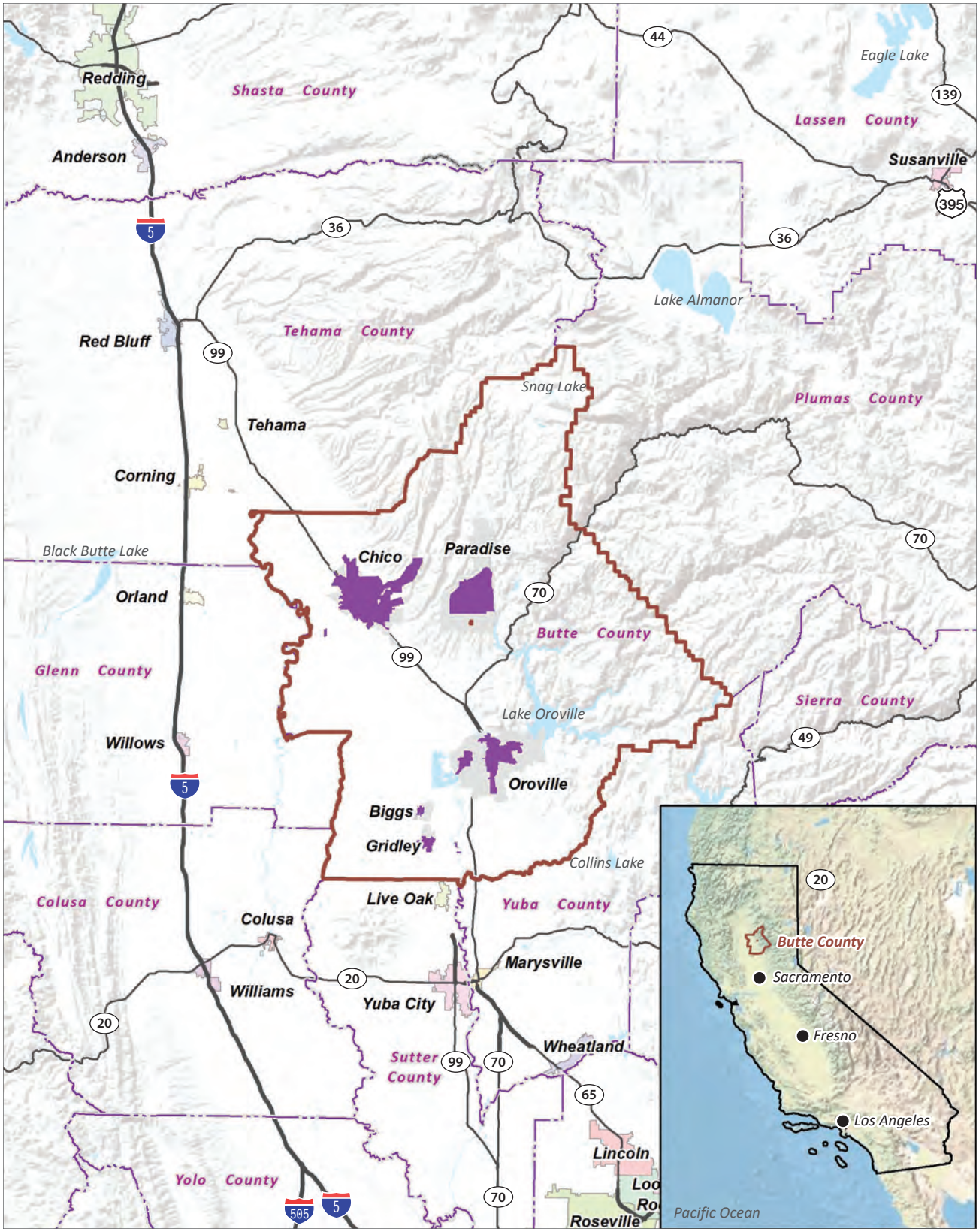
In compliance with the California Environmental Quality Act (CEQA), this EIR describes the potential environmental impacts associated with the adoption and implementation of General Plan 2040 and the URCP. Section 15125 of the CEQA Guidelines establishes that the physical environmental conditions at the time of the issuance of the notice of preparation constitute the baseline conditions by which it is determined whether an impact is significant. The notice of preparation for the Butte County General Plan 2040 EIR was published on October 7th, 2022, (State Clearinghouse #2022100151). The Butte County Department of Development Services is the Lead Agency for the environmental review of the proposed project.

3.1 LOCATION AND SETTING

Butte County lies in north central California at the northeastern end of the Sacramento Valley, approximately 150 miles northeast of San Francisco and 70 miles north of Sacramento. Highways 70 and 99, which extend in a north-south direction through Butte County, are the principal transportation corridors connecting the county to the region. Highways 32 and 162 provide subregional connections to areas to the east, northeast, and west of the county and to Interstate 5. Butte County's regional location is shown in Figure 3-1.

From the northeastern end of the Sacramento Valley, Butte County extends into the foothills at the confluence of the southern Cascade and the northern Sierra Nevada mountain ranges. The total land area of Butte County is approximately 1,680 square miles and can be divided into three general topographical areas: the western 45 percent of the county is a valley area, about 25 percent of the county is foothills to the east of the valley, and the eastern 30 percent of the county is mountainous. The US Forest Service is a major landowner within Butte County's mountain region, holding approximately 13 percent of the total county area (over 135,000 acres) in the Plumas and Lassen National Forests.

Most of Butte County's urbanized areas are in the Sacramento River valley near prime agricultural lands and major transportation corridors. The urban areas within the county include the five incorporated municipalities of Chico, Oroville, Paradise, Gridley, and Biggs, as well as numerous small unincorporated communities. Land inside the city or town limits of incorporated municipalities is not under the County's jurisdiction. As of July 2021, the total population of the county was approximately 208,309 residents. Most of these residents, approximately 129,867 people, live in incorporated municipalities. The balance of these residents, approximately 59,414 people, live in the county's unincorporated areas. The incorporated municipalities generally consist of single-family residential communities; the unincorporated communities typically include widely separated farm homes and smaller established unincorporated communities.



Source: ESRI, 2022

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Scale (Miles)

Butte County Boundary
Other County Boundary
Spheres of Influence

Figure 3-1
Regional Location

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Today, people are attracted to Butte County by its rural setting and natural beauty, by the productivity of its agricultural sector, and by the county's recreational opportunities. Before the economic downturn that began in late 2006, Butte County experienced significant pressures for growth. From 2000 to 2006, the population of Butte County grew a total of 6.9 percent. Similarly, during that same time frame, Butte County saw a 9.6 percent increase in households, with a particularly heavy concentration of new home construction in the foothill region.

The 2018 Camp Fire resulted in substantial population decline in areas of the county. The 2018 Camp Fire was the deadliest and most destructive wildfire in the US in over a century, damaging and destroying approximately 18,000 structures, including 2,200 homes in the Upper Ridge area. Residents who lost their homes were forced to find temporary housing, and while some homes have been rebuilt and many others are being planned, it is uncertain how many homes will ultimately be rebuilt.

The population and number of households in the unincorporated county decreased from 2010 through 2021 by approximately 29 percent, from 83,758 to 59,414 residents. Much of the decrease can be attributed to the loss of homes in the 2018 Camp Fire and 2020 North Complex Fire, pushing displaced residents into incorporated areas or out of Butte County entirely. By September 18, 2020, the North Complex Fire consumed over 287,000 acres, destroyed over 1,200 structures including residences and commercial buildings, resulted in evacuation orders or warnings which impacted over 20,000 residents, and killed 15 people.

Population data from the Census Bureau indicates that the URCP area population was growing about 1.8 percent per year prior to the Camp Fire, which is typical for a moderately growing community. The Camp Fire destroyed about 37 percent of the housing units in the URCP area, and it is uncertain how many residents will ultimately move back to the community. The Camp Fire impacts the potential growth in employment and nonresidential development. Since the fire destroyed many commercial buildings, it will take time to rebuild.

3.2 PROJECT AREA

General Plan 2040 defines the project area as Butte County. Land inside the city or town limits of incorporated municipalities is not under Butte County's land use jurisdiction. Therefore, this EIR focuses on the analysis of potential impacts on lands only within unincorporated Butte County, including land inside each municipality's sphere of influence (SOI), but not inside municipality limits. This area is referred to as "Butte County" and the "Planning Area" in this document and is shown on Figure 3-2. The boundaries of Butte County's five incorporated municipalities and their SOIs are described below.

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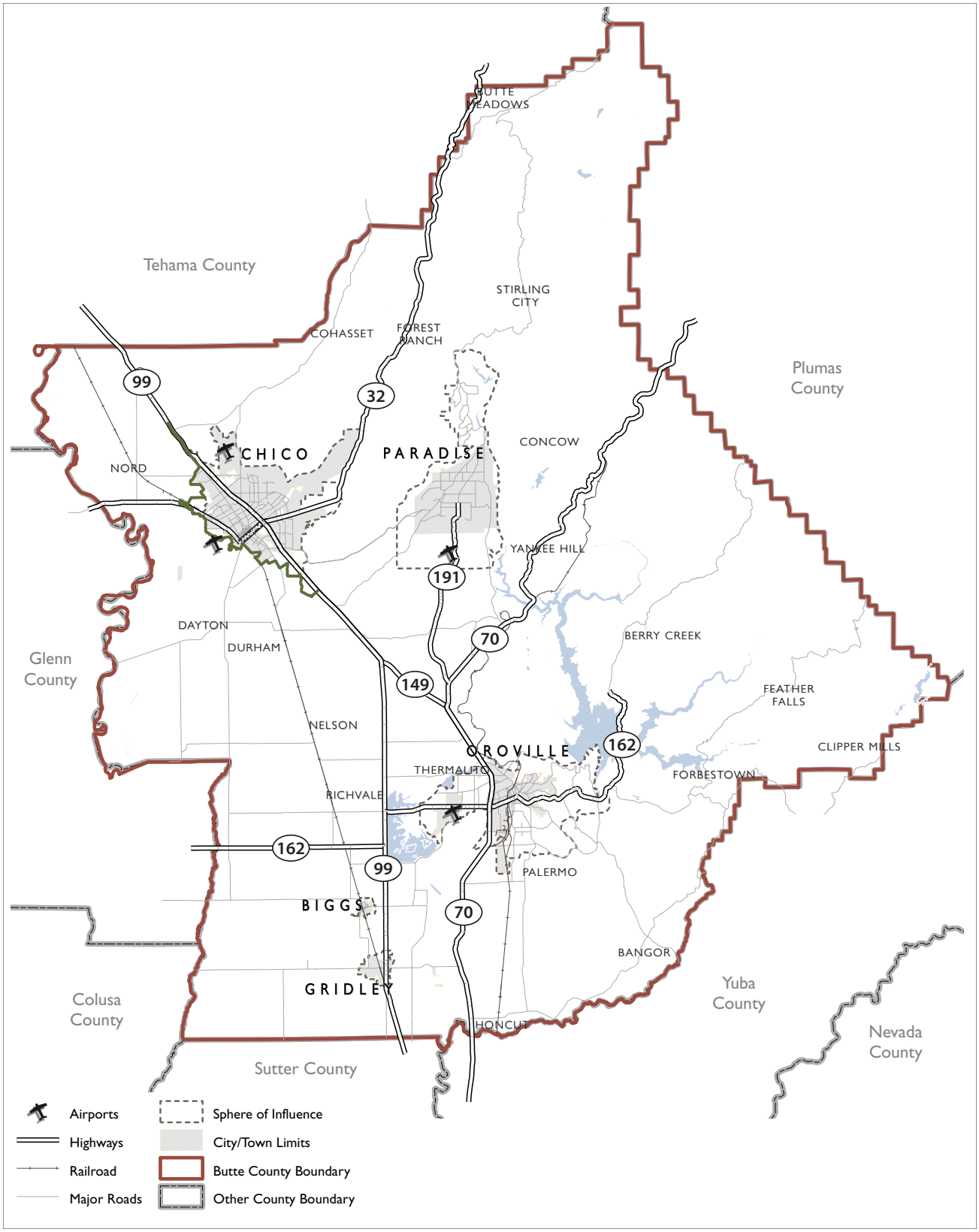

Source: Butte County, 2009

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Scale (Miles)

Figure 3-2
Planning Area

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3.2.1 UNINCORPORATED AREA

Butte County lies in north-central California at the northeastern end of the Sacramento Valley. Highways 32 and 162 provide subregional connections to areas east, northeast, and west of the county and to Interstate 5. The total land area of unincorporated Butte County is approximately 1,030,910 acres of land (1,610 square miles) and can be divided into three general topographical areas: the western 45 percent of the county is a valley area, about 25 percent of the county is foothills to the east of the valley, and the eastern 30 percent of the county is mountainous.

3.2.2 THE CITY OF CHICO

The City of Chico spans approximately 33 square miles[1] in the northwest part of Butte County, at the intersection of Highways 99 and 32. The city branches out in the north to include the Chico Municipal Airport and in the northeast to include Bidwell Park.

The City of Chico boundary area is not uniform and contains multiple county "islands" (unincorporated urban pockets completely or substantially surrounded by the city). Additionally, Chico's boundaries include the Chico Water Pollution Control Plant—a noncontiguous area approximately four miles southwest of the city. The city's current SOI totals approximately 39.5 square miles.[2] The SOI contains the city's boundary area, unincorporated islands, and other unincorporated areas primarily to the north, west, and south of the city bounds.

3.2.3 THE CITY OF OROVILLE

Located in southern Butte County at the intersection of Highways 70 and 162, the City of Oroville spans 13 square miles[3] and covers an irregular shape that includes the Oroville Municipal Airport. The adjacent unincorporated communities of Thermalito and South Oroville are under County jurisdiction.

Oroville's SOI is a 41-square-mile area,[4] which includes the developed unincorporated areas of Thermalito, Las Plumas, South Oroville, and Kelly Ridge as well as Palermo to the south. State Water Project lakes and afterbays are located to the west, north, and northeast of the Oroville SOI.

3.2.4 THE TOWN OF PARADISE

The Town of Paradise sits in the foothills of the Sierra Nevada mountain range in north central Butte County. The town area is approximately 18 square miles,[5] located at the northern terminus of Highway 191. The adjacent unincorporated community of Magalia is under County jurisdiction.

[1] City of Chico, October 2018, Final Municipal Service Review, page 23.
[2] City of Chico, October 2018, Final Municipal Service Review, page 23.
[3] City of Oroville, December 2014, Final Municipal Service Review, page 22.
[4] City of Oroville, December 2014, Final Municipal Service Review, page 22.
[5] Town of Paradise, August 2007, Final Municipal Service Review, page 1-5.

The Town of Paradise SOI is approximately 46 square miles,[6] with the majority of the SOI extending to the north, south, and east of the town. Paradise's SOI includes the unincorporated communities of Magalia and Paradise Pines to the north and the Paradise Skypark Airport to the south.

3.2.5 THE CITY OF GRIDLEY

The City of Gridley is in the southwest corner of Butte County. Highway 99 runs in a north-south direction through the eastern portion of the city and the Union Pacific Railroad extends through the center of the city. The city is approximately two square miles in area.[7]

Gridley's SOI is approximately three square miles[8] and extends primarily to north of the city, bounded by Pryde Avenue.

3.2.6 THE CITY OF BIGGS

The City of Biggs is located in the southwest portion of Butte County, about 5 miles north of Gridley. The city has a square shape and an area of approximately 0.65 square miles.[9] The Biggs city limits include the City's wastewater treatment plant, which is located on a detached parcel west of West Biggs-Gridley Road. Biggs' SOI extends primarily to the north and east of the city. The total area of the Biggs SOI is 0.84 square miles.[10]

3.3 PROJECT OBJECTIVES

The following objectives for the Butte County General Plan Update will aid decision makers in their review of the project and associated environmental impacts:

- Support the recovery of Camp and North Complex Fires, which destroyed thousands of structures and displaced residents.
- Address the current and future needs of residents, businesses, employees, and visitors of Butte County.
- Comply with the State regulations, including new laws such as environmental justice and climate adaptation.
- Engage community members as key decision makers for adaptation, community resiliency, public safety, and environmental justice.
- Incorporate the Upper Ridge Community Plan in the General Plan.

[6] Butte County GIS, 2009.
[7] City of Gridley, February 2008, Final Municipal Service Review, page 17.
[8] Butte County GIS, 2009.
[9] City of Biggs, December 2015, Final Municipal Service Review, page 10.
[10] City of Biggs, December 2015, Final Municipal Service Review, page 10.

- Update the General Plan without significant land uses changes.
- Partner with municipalities, special districts, and unincorporated communities on important regional planning issues and collaborate with the military to ensure the land uses within military operating areas (MOAs) are compatible with the military mission.
- Accommodate all modes all modes of transportation and coordinate with all transportation planning agencies.
- Address areas of urban development for anticipated growth during the next 20 years to meet the housing needs of Butte County residents.
- Protect the county airports in coordination with the 2017 Airport Land Use Compatibility Plan.
- Address the protection, enhancement, utilization, and management of natural resources and the environment.
- Promote the public's health, safety, and welfare.
- Play a critical role in establishing a positive environment for economic development.
- Address agriculture as an important aspect of Butte County's economy that will be protected, maintained, promoted, and enhanced.
- Identify appropriate locations and the type of growth that will occur in rural areas while protecting the integrated benefits of agricultural resources, natural resources, and the environment.
- Address the need for new parks and recreation opportunities. Cultural resources that are significant to Butte County's history will be identified and protected.
- Address the need for new parks and recreation opportunities and identify and protect cultural significant to Butte County's history.
- Address, identify, and promote ways to maintain or enhance economic opportunity, viability and community well-being while protecting and restoring the natural environment.
- Address where and how the full array of public services and/or facilities will be provided to the varied and diverse geography of the county.
- Address the protection and management of water resources.

In addition to the objectives outlined in the General Plan 2040 Guiding Principles, the proposed project aims to accommodate anticipated population growth and to allow all Butte County residents to maintain economic use and value of their property.

3.4 MAJOR COMPONENTS OF GENERAL PLAN 2040

The following provides a summary of the major components and revisions of General Plan 2040.

3.4.1 GENERAL PLAN 2040 CONTENTS AND ORGANIZATION

General Plan 2040 includes an introduction and six separate comprehensively updated and new elements that establish goals, policies, and actions. The elements cover the topics required by California State Government Code Section 65302. In addition, General Plan 2040 includes chapters that list the General Plan 2040 Guiding Principles, describe Butte County, provide a glossary, and list preparers of the General Plan.

3.4.2 GENERAL PLAN REVISIONS

3.4.2.1 CIRCULATION ELEMENT REVISIONS

The revised element addresses how the County evaluates the transportation impacts of new development. It also responds to new and emerging County priorities, including increased support for active transportation and changing conditions like new transportation technologies. The 2040 General Plan Update includes revisions to the Circulation Element to incorporate information on vehicle miles traveled (VMT) metrics and update the description of planned and programmed improvements to be consistent with the Butte County Regional Transportation Plan and Sustainable Communities Strategy (RTP/SCS), an integrated transportation and land use plan to implement provisions of California's Global Warming Solutions Act (Assembly Bill 32). In addition, the updated element includes a list of planned but not yet funded projects to preserve right-of-way for said projects. The element also includes policy revisions related to adopting and maintaining a VMT environmental threshold and development project screening process and changing the peak hour LOS standard for County-maintained roads within the unincorporated areas of the county from C to D, while updating the list of exceptions to the LOS D standard.

3.4.2.2 NEW ENVIRONMENTAL JUSTICE ELEMENT

The 2040 General Plan Update includes a new Environmental Justice Element. The new element addresses the topics of pollution exposure and equitable access to resources and opportunities to advance environmental justice in the county, as required by Senate Bill (SB) 1000. Environmental justice means the fair treatment of people of all races, cultures, and incomes in decisions about land use and other environmental regulations so that no communities are disproportionately burdened by pollution.

SB 1000 requires that general plans address environmental justice in "disadvantaged communities," which are called "Communities of Opportunity" or "COOs" in the 2040 General Plan. COOs are defined as low-income areas that are disproportionately affected by environmental pollution and other hazards that can lead to negative health effects, exposure, or environmental degradation. The new element includes goals, policies, and actions to address the needs of COOs in all areas required by State law. This includes needs such as access to physical activity, transportation and transit, healthy food, safe and sanitary homes, and public facilities and services, as well as issues relating to air quality and pollution exposure and community engagement.

3.4.2.3 HEALTH AND SAFETY ELEMENT REVISIONS

The updated element modernizes information on existing conditions and the level and location of hazards and threats facing Butte County, including updates to all figures mapping hazards and expanding consideration of the connection between climate change and hazards. The element includes details regarding the Community Wildfire Protection Plan and CAL FIRE Butte Unit Strategic Fire Plan as well as the current Local Hazard Mitigation Plan and Butte County Emergency Operations Plan. It also provides a framework for adaptation and resilience to climate change, as well as developing community evacuation modeling to assist in the development of future evacuation plans. The element also includes policy additions and revisions related to flood hazards and dam inundation, seismic and geologic hazards, fire hazards, emergency response and disaster preparedness, community health, and climate change adaptation and resilience.

3.4.2.4 HOUSING ELEMENT REVISIONS

The Housing Element serves as the County's guiding policy document to meet future housing needs for all the county's economic levels. It encourages the provision of affordable housing in the existing land use designations in the Land Use Element. The updated Housing Element includes a plan to ensure that residents of all income levels, including those whose units were destroyed by fire, can find housing. The updated Housing Element includes policy changes that are limited to complying with State law, combining programs with similar intent to aid in implementation, and eliminating programs where the County has already completed the identified task.

3.4.2.5 LAND USE ELEMENT REVISIONS

The Land Use Element is revised to manage development in a way that supports the community's vision for the future of Butte County as well as updating information regarding equitable access to infrastructure and public services in compliance with SB 244. The County intends to update the General Plan without significant land use changes in order to preserve the character of the county and quality of life for the residents of Butte County.

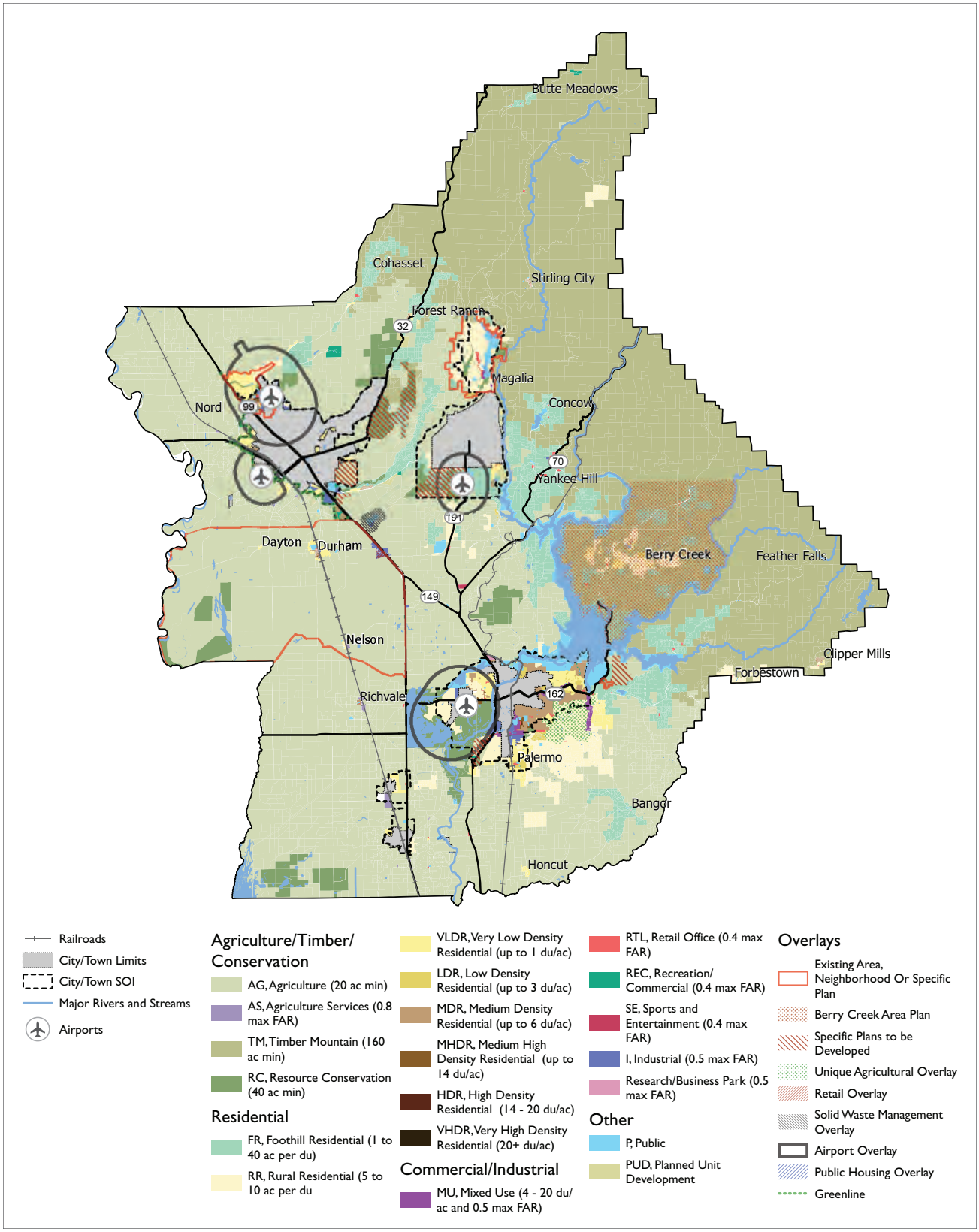
Land Use Map Changes

The 2040 General Plan Updates would amend the General Plan land use map, shown on Figure 3-3, as described below. The goals, policies, and actions in the Land Use Element provide additional direction on how the various land use designations should be developed to contribute to the overall character of and vision for Butte County.

The land use map changes would occur in two areas:

- URCP. The 2040 General Plan Update would redesignate 28 parcels in the URCP area from Retail and Office to Mixed-Use. The URCP area is north of the Town of Paradise, primarily within the boundaries of the Magalia census-designated place. This area is composed of eight distinct neighborhoods, with open spaces within and adjacent to the neighborhoods.

- **Specific Plans and Planned Developments to Be Developed "Overlay."** As shown in Figure 3-4, the 2040 General Plan Update would include a new overlay for the area envisioned as a sports recreation campus, a 264-acre area east of the Butte Creek Preserve, between the Skyway and Highway 99, southeast of Chico. This overlay applies to areas that are expected to be developed under a specific plan or planned development. Each specific plan or planned development will be intended to implement the vision identified in the General Plan. Until a specific plan or planned development is adopted, any development within this area is subject to the underlying land use designations. For this proposed new sports complex area, a future planned development project will determine the mix of uses that will occur. The planned development project will identify opportunities for serving the region with active recreation such as baseball, softball, soccer, and football fields, archery courses, and basketball/volleyball courts. The planned development project may include wellness and education centers with ancillary housing and event centers. The planned development will include areas of open space and habitat conservation.



Source: Butte County, 2012; PlaceWorks, 2021

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Scale (Miles)

Figure 3-3
General Plan 2040 Land Use Map

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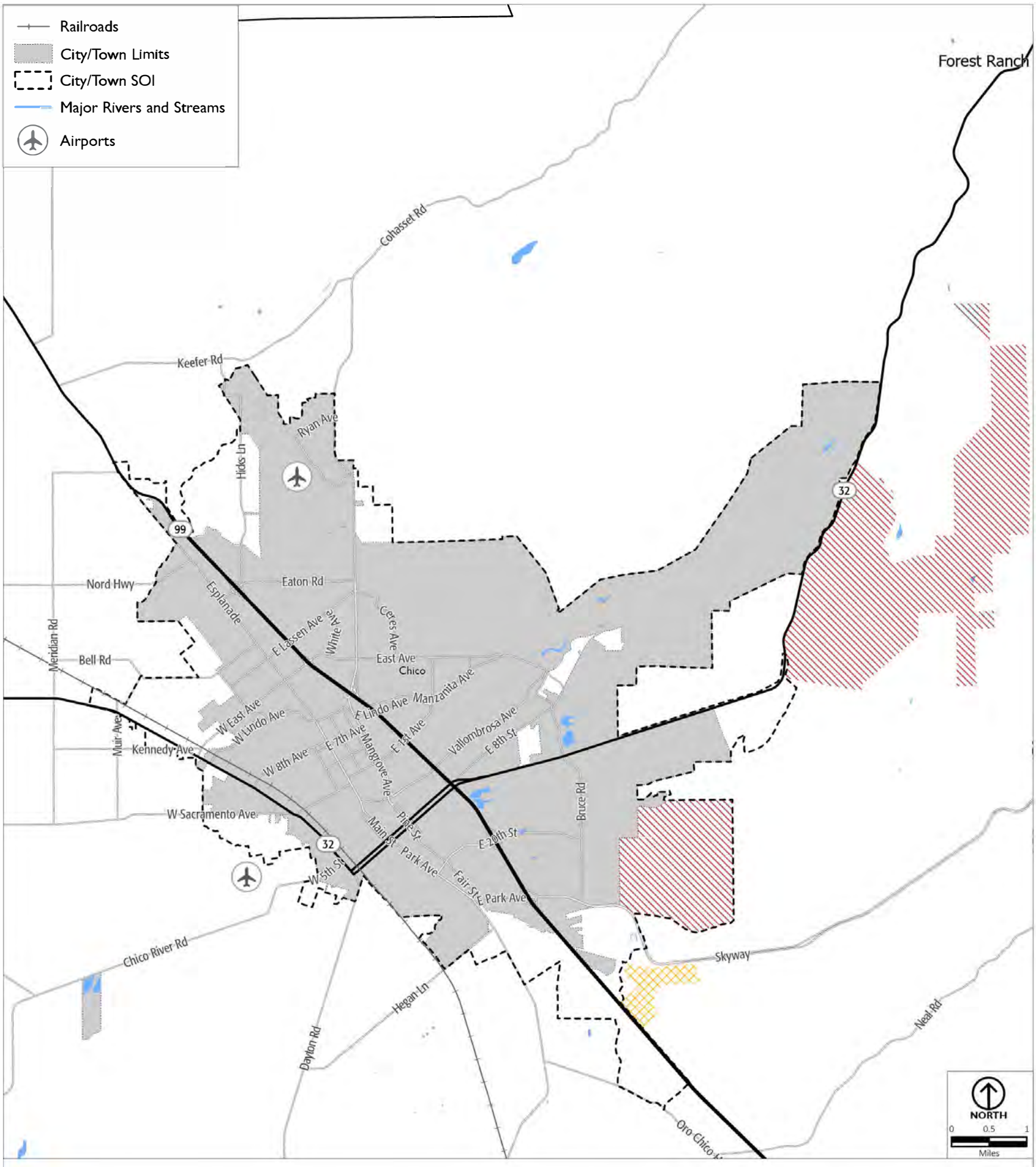

Source: Butte County, 2012; PlaceWorks, 2021.

FIGURE 3-4

SPECIFIC PLANS AND PLANNED DEVELOPMENTS TO BE OVERLAY

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Land Use Designation Changes

The General Plan Update identifies two locations in the Upper Ridge for land use redesignation to allow multifamily housing to be more easily built on commercial properties. These locations include the Old Magalia neighborhood and the Magalia Center neighborhood and are considered ideal for a limited amount of multifamily housing on the Upper Ridge.

The Magalia Center neighborhood is an "infill site" surrounded by existing development. It is close to a grocery store, a pharmacy, the post office, and two churches. It is also next to a new Pacific, Gas, and Electric Company (PG&E) "microgrid" system, which is intended to retain power during emergency shut-off times. The Old Magalia neighborhood is the historic old town of the Upper Ridge and was once connected to Chico via railway. There are several commercial properties in Old Magalia that would make suitable multifamily housing locations that would be close to services, a church, and other amenities. The proposed land use changes would occur on 14 parcels in the Old Magalia neighborhood and 14 parcels in the Magalia Center neighborhood, as shown on Figure 3-5, taken from the URCP.

As shown in Table 3-1, the 2040 General Plan Update would increase the amount of land designated for Mixed-Use and reduce the amount of land designated for Retail Office.

TABLE 3-1 GENERAL PLAN 2040 AND PROPOSED LAND USE DESIGNATION ACRES

Land Use	General Plan 2030 (Existing Acres)	General Plan 2040 (Proposed Acres)	Percent Difference
Agriculture	474,670	474,670	0%
Agriculture Services	530	530	0%
Timber Mountain	349,700	349,700	0%
Resource Conservation	37,260	37,260	0%
Foothill Residential	62,580	62,580	0%
Rural Residential	32,400	32,400	0%
Very Low Density Residential	11,070	11,070	0%
Low Density Residential	2,470	2,470	0%
Medium Density Residential	6,150	6,150	0%
Medium High Density Residential	490	490	0%
High Density Residential	70	70	0%
Mixed Use	**1,040**	**1,387**	**33%**
Retail and Office	**1,430**	**1,083**	**-24%**
Recreation Commercial	930	930	0%
Sports and Entertainment	100	100	0%
Industrial	2,390	2,390	0%
Research and Business Park	100	100	0%
Public	31,240	31,240	0%
Planned Unit Development	890	890	0%
Undesignated rights-of-way	15,410	15,410	0%
Total	**1,030,910**	**1,030,910**	

Note: Numbers do not always add up to total due to rounding.
Source: Butte 2012, Table 3-2 "Modified Project Acres" = General Plan 2030 (Existing Acres)

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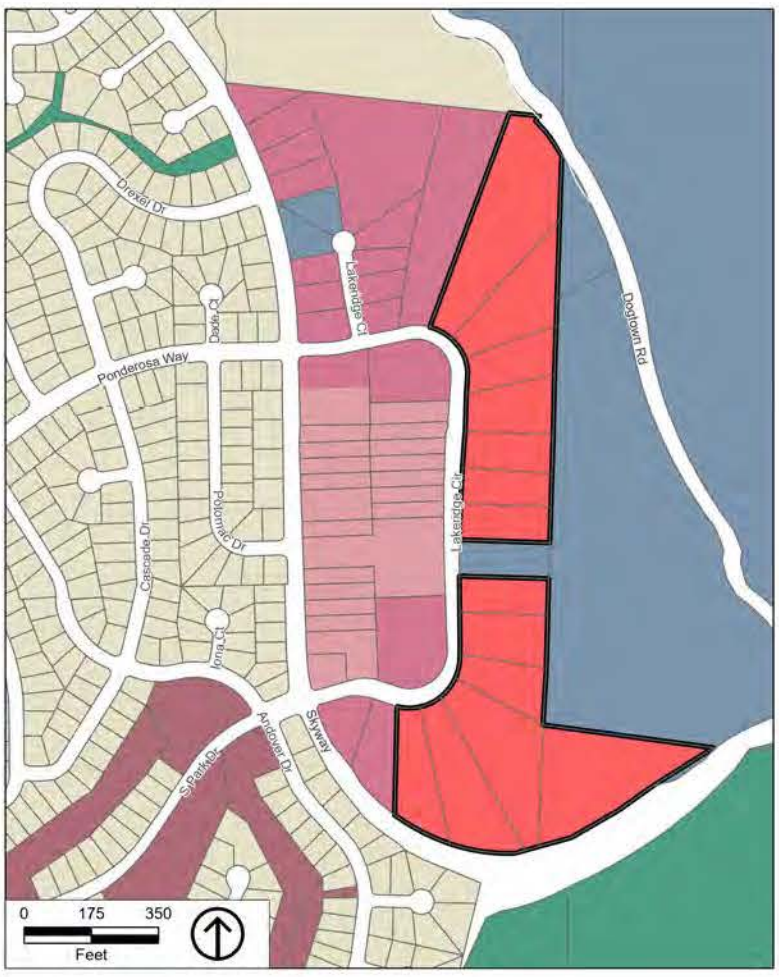
Existing Magalia Center Land Use Designations with Retail Office Parcels



Existing Old Magalia Land Use Designations with Retail Office Parcels

Plan Area Parcels
Existing Retail Office Parcels

Existing Land Use Designations within Plan Area

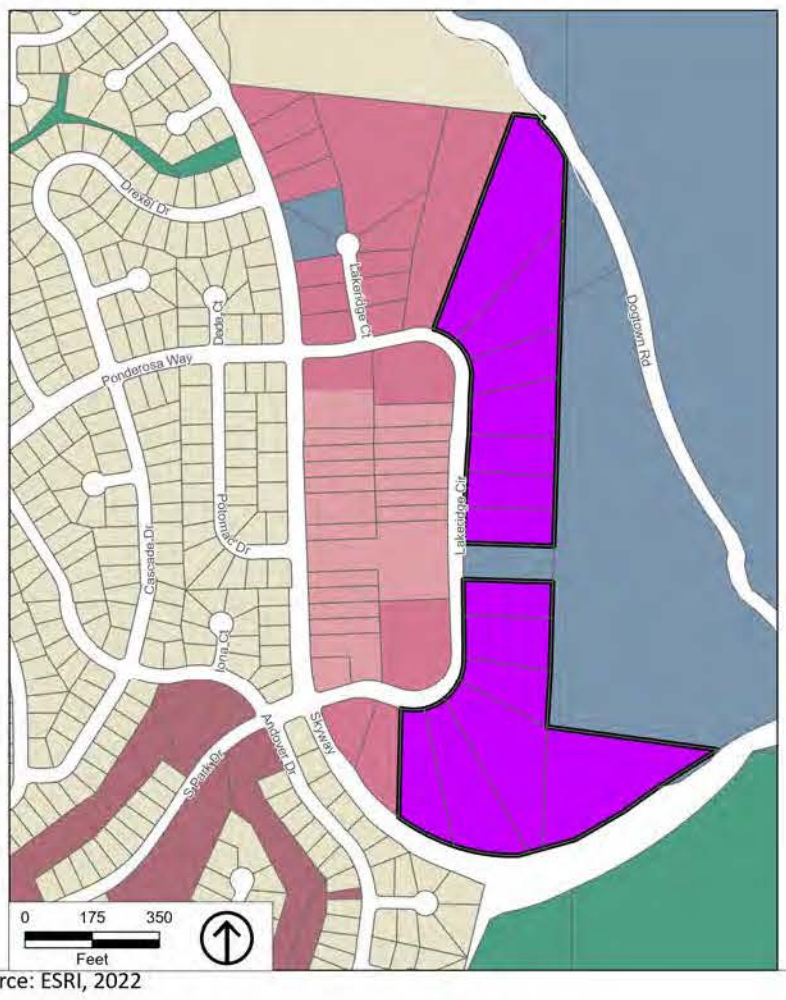
- General Commercial (G-C)
- Recreation/Commercial (REC)
- Neighborhood Commercial (N-C)
- Rural Residential (5 ac min.) (RR-5)
- Retail Office (RTL)
- Public (P)
- Resource Conservation (40 ac min) (RC)

Plan Area Parcels
Proposed Mixed Use Parcels

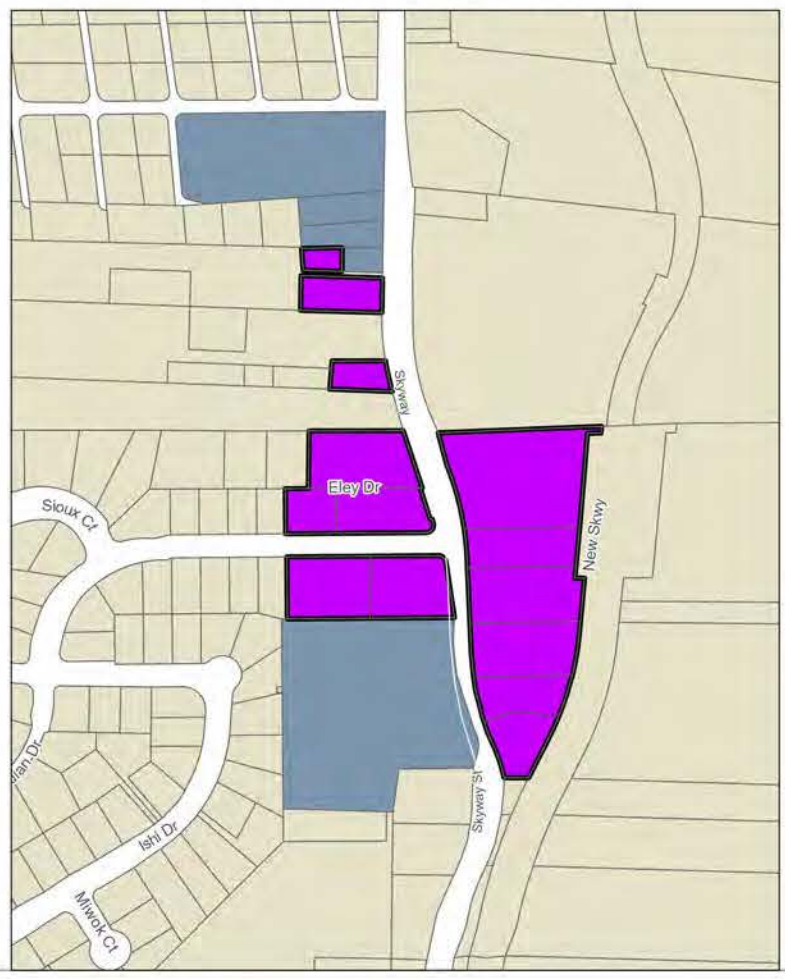
Proposed Land Use Designations within Plan Area

- General Commercial (G-C)
- Recreation/Commercial (REC)
- Neighborhood Commercial (N-C)
- Rural Residential (5 ac min.) (RR-5)
- Mixed Use (MU)
- Public (P)
- Resource Conservation (40 ac min) (RC)

Proposed Magalia Center Land Use Designations with Mixed Use Parcels



Proposed Old Magalia Land Use Designations with Mixed Use Parcels



Source: ESRI, 2022

Figure 3-5
Proposed Land Use Designations in the Upper Ridge Community Plan Area

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Combined, the 2040 General Plan Update redesignates 28 parcels in the URCP area from Retail Office to Mixed-Use. This allows for either commercial, residential, or both types of development and offers flexibility to develop housing if desired. The General Plan allows for a maximum floor area ratio (FAR)[11] of 0.4 in the Retail Office land use designation. It also allows residential densities ranging from 4 to 20 units per acre and a FAR of 0.5 in the Mixed-Use land use designation. As a result, the 28 parcels in the Old Magalia neighborhood and the Magalia Center neighborhood have an increased FAR and an allowed residential density of 4 to 20 units per acre that was previously not allowed. Table 3-2, *Upper Ridge Community Plan Buildout Projections*, illustrates the buildout projections in the URCP as a result of the General Plan Update.

TABLE 3-2 UPPER RIDGE COMMUNITY PLAN BUILDOUT PROJECTIONS

	Existing	Proposed
Maximum Allowed Dwelling Units per Acre	0	20
Maximum Allowed FAR	0.4	0.5
Total Acreage of Upper Ridge Parcels Proposed for Land Use Change[1]	42.6	42.6
Maximum Allowed Units[2]	0	851
Maximum Residents[3]	0	1,915
Maximum Allowed Retail Square Footage[4]	741,391	926,739
Maximum Employees[5]	1,606	2,008

Notes: Buildout calculations assume that 100 percent of the acreage of each parcel would be developed at its maximum allowed FAR or dwelling units per acre.

The "proposed" calculations assume that the 100 percent of the acreage of each parcel would be developed as entirely commercial or entirely residential.

"Existing" refers to the land use standards allowed under the parcels' current designation of Retail and Office and "proposed" refers to the land use standards allowed under the parcels' proposed designation of Mixed Use.

[1] Source: Butte County Development Services Information Webmap (accessed September 9, 2022).

[2] Generated by multiplying the total acreage of Upper Ridge parcels proposed for land use change by the maximum allowed dwelling units per acre.

[3] Generated by multiplying the maximum allowed units by the unincorporated Butte County average persons per household (2.25) reported by the Department of Finance E-5 Population and Housing Estimates for Cities, Counties, and the State, 2020-2022, May 2022.

[4] Generated by multiplying the total square footage of the Upper Ridge parcels proposed for land use change by the maximum allowed FAR (0.4 for existing, 0.5 for proposed).

[5] Generated by dividing the maximum allowed square footage by the average square feet per employee (461.5) in the technical methodology for the BCAG RTP/SCS Land Use Allocation Model (Appendix C, Model Code: 6.1, Model Classification: Mixed Use Retail, jurisdiction: Magalia).

[11] FAR is a ratio of the gross building square footage permitted on a lot to the net square footage of the lot. For example, on a site with 10,000 square feet of land area, a FAR of 1.0 will allow 10,000 gross square feet of building floor area to be built. On the same site, a FAR of 2.0 would allow 20,000 square feet of floor area (e.g. two-story building with 100 percent of lot coverage, or a four-story building with 50 percent lot coverage), and a FAR of 0.4 would allow 4,000 square feet of floor area.

As shown in Table 3-2, the General Plan Update would increase the number of maximum allowed units across these 28 parcels. If 100 percent of the acreage of all parcels were developed at their maximum allowed density, the resulting number of units would be 851, which would generate approximately 1,915 residents.[12] Moreover, the maximum allowed retail square footage would increase from 741,391 square feet (at 0.4 FAR) to 926,739 square feet (at 0.5 FAR). These figures assume that 100 percent of parcels' acreages would be developed for commercial uses at the maximum allowed FAR. The estimated total number of employees, as a result of the change in maximum allowed FAR, would increase from 1,606 employees to 2,008 employees.[13]

Table 3-3, *Unincorporated County Buildout Projections*, illustrates the buildout projections for the unincorporated county as a result of the General Plan Update. Note that these projections are based on version 1.1–3.17.21 of the BCAG RTP/SCS travel demand model (the figures listed below only include the Transportation Analysis Zones in the unincorporated county) and do not reflect General Plan 2040's proposed land use changes in the Upper Ridge. See Appendix 3-2 for more details about the land use model data.

TABLE 3-3 UNINCORPORATED COUNTY 2040 PROJECTIONS

	2020	2040	2020-2040 Change	Percent Change
Housing Units	21,825	29,478	7,654	35.1%
Residents	61,742	73,122	11,380	18.4%
Employees	10,046	12,161	3,534	41.0%
Retail and Office Space (KSF)	1,745	2,468	723	41.4%
Industrial Space (KSF)	3,434	3,580	146	4.3%

Source: Fehr and Peers 2022 (Appendix 3-2).
KSF = Thousand Square Feet

As described further in section 3.4.4, *Zoning Amendments*, the zoning ordinance will be amended to change zoning for these 28 sites to reflect and ensure consistency with the General Plan Mixed-Use designation.

Policy Changes

The goals, policies, and actions in the Land Use Element provide additional direction on how the various land use designations should be developed to contribute to the overall character and vision for Butte County. The element includes policy revisions such as supporting recovery and rebuilding efforts from the Camp Fire and fostering resilient and thriving communities; updating the Watershed Protection Overlay Zone to support the County's housing goals for the Upper Ridge community; and supporting smart growth, locating housing near jobs, and supporting the States greenhouse gas (GHG) and vehicle miles traveled (VMT) reduction goals.

[12] This figure assumes that all residents of the resulting developments would be new residents of the unincorporated County. This figure was calculated using the unincorporated County's average persons per household reported in DOF Table E-5.

[13] These figures were calculated using the BCAG RTP/SCS Land Use Allocation Model's Mixed Use Retail average square feet per employee for Magalia.

3.4.2.6 WATER RESOURCES ELEMENT REVISIONS

The updated Water Resources Element focuses on water conservation opportunities to sustain Butte County's groundwater. The element includes policy additions and revisions related to ensuring a resilient water supply and infrastructure, as well as coordination between Groundwater Sustainability Agencies in the county.

3.4.2.7 OTHER ELEMENT AMENDMENTS TO ENSURE CONSISTENCY

Area and Neighborhood Plans Element

The Area and Neighborhood Plans Element removes Section 2 and is revised to rename this element as the "Area Plans Element," since the Chapman Mulberry Neighborhood Plan area has been annexed.

Agriculture Element

The Agricultural Element includes a policy revision to remove a reference to promoting clustered development with regard to agricultural lands. The element also includes a new goal, policy guidance, and policy in support of the climate adaptation and resilience goals of the project.

Conservation and Open Space Element

The Conservation and Open Space Element includes revisions to the text of the greenhouse gases background section to reflect the updated Climate Action Plan. These revisions include background information regarding:

- Executive Order S-03-05 and Assembly Bill 32: California Global Warming Solutions Act of 2006
- Senate Bill 375: Sustainable Communities and Climate Protection Act of 2008
- Executive Order B-30-15
- Senate Bill 32 and Assembly Bill 197
- Executive Order B-55-18

The element also includes the following revisions:

- Revisions to goals, policies, and actions to reflect the updated Climate Action Plan. The element includes a new policy as well as revisions in support of the climate adaptation and resilience goals of the project.
- Revisions to the text of the cultural resources section to recognize tribal consultation efforts as part of the General Plan 2040 process. It also includes new policies and actions based on a public comment related to the environmental justice component as well as the County's consultation with the Mooretown Rancheria of Maidu Indians.

Economic Development Element Revisions

The Economic Development Element includes a policy addition in support of the environmental justice and climate adaptation and resilience goals of the project.

Public Facilities and Services Element

The Public Facilities and Services Element addresses the public services, infrastructure and facilities provided by Butte County to ensure their adequate provision and maintenance. The element includes the following revisions:

- Revisions and additions to the introduction and Parks and Recreation section background to provide new information, including identifying additional managed trails and the roles of various committees.
- Revisions to goals, policies, and actions to support fire risk reduction, development of a regional recreation campus, public engagement, inter-agency coordination, proactive fundraising for Plan implementation, and the use of technological resources.

3.4.3 PROJECT IMPLEMENTATION

The proposed General Plan Update includes goals and policies to achieve the proposed project's objectives described in Section 3.1.1.2, *Project Objectives*. The proposed goals and policies of the General Plan Update can be found in Appendix 3-1.

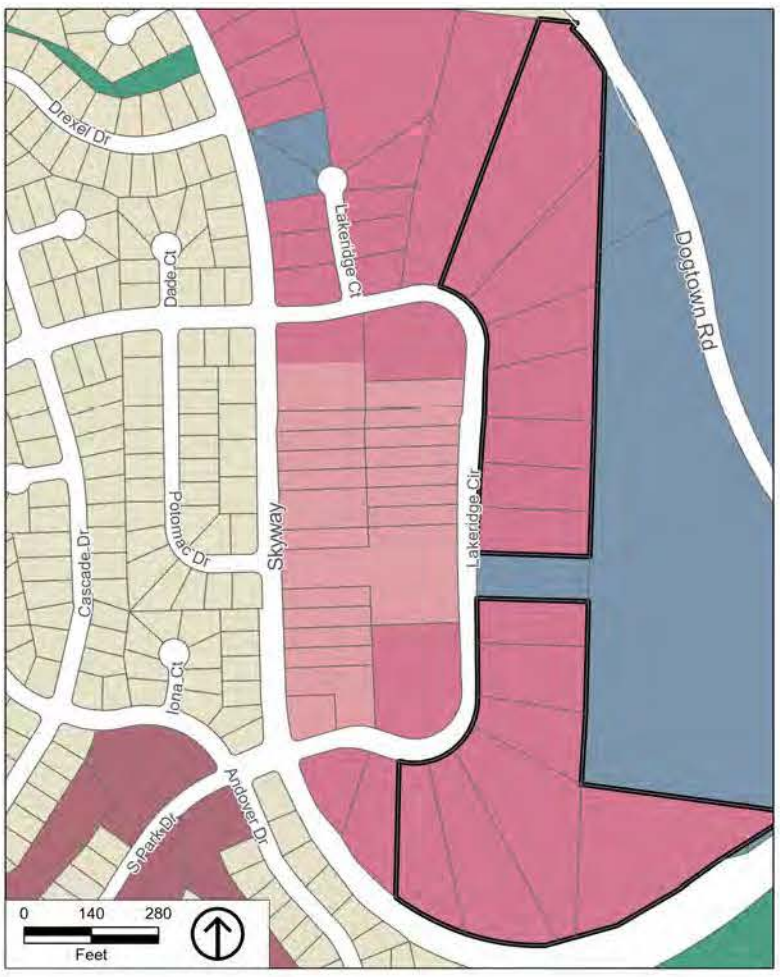
3.4.4 ZONING AMENDMENTS

As illustrated in Figure 3-6, the zoning ordinance will be amended to change zoning from General Commercial to Mixed-Use to reflect and ensure consistency with the General Plan Mixed-Use designation for the 28 sites in the URCP area. The General Plan Update would result in two zone changes (rezone) for these properties in the URCP since the land use changes included in the URCP are not supported by existing zoning. The two policies in the URCP that impact the need for rezoning are:

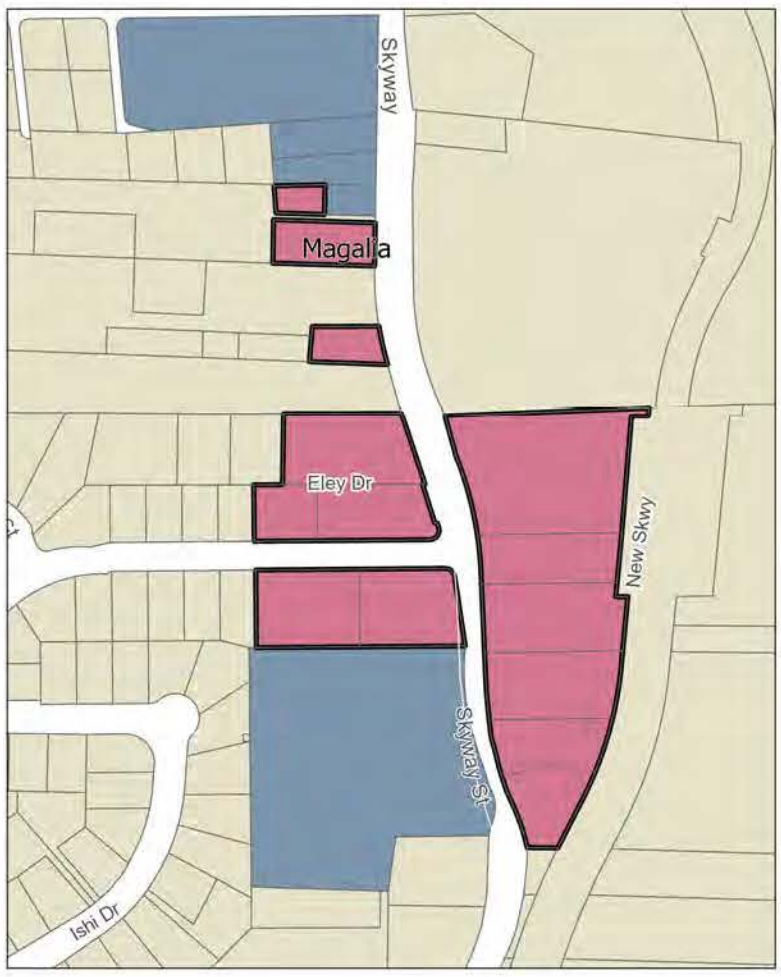
- Strategy LU-2.5: Support new multifamily housing on the Upper Ridge at sites close to services and evacuation routes, that include commercially zoned properties along Lakeridge Circle and along Old Skyway in Old Magalia. Amend the General Plan to redesignate parcels as shown in Figures 3.3 and 3.4 from Retail and Office to Mixed-Use.
- Strategy LU-2.6: Amend the Zoning Ordinance to make it consistent with General Plan redesignation described in Strategy LU-2.5 to allow new multifamily housing on the Upper Ridge. Change zoning of parcels shown in Figures 3.3 and 3.4 from General Commercial to Mixed-Use.

As a result, the zoning will change from General Commercial to Mixed-Use (i.e., MU-2 or MU-3) consistent with the General Plan change that redesignates 28 parcels from Retail and Office to Mixed-Use.

Existing Magalia Center Zoning Designations with General Commercial Parcels



Existing Old Magalia Zoning Designations with General Commercial Parcels



Plan Area Parcels
Existing General Commercial Parcels

Existing Zoning Designations within Plan Area

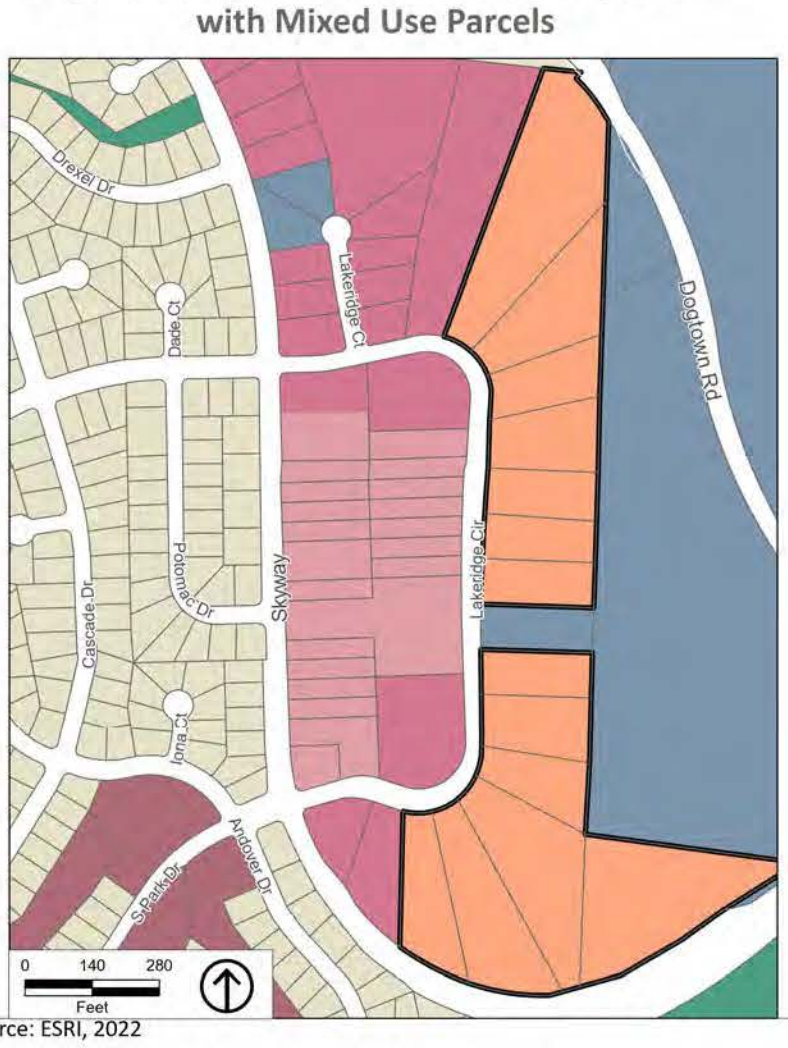
- General Commercial (G-C)
- Neighborhood Commercial (N-C)
- Public (P)
- Resource Conservation (40 ac min) (RC)
- Recreation/Commercial (REC)
- Rural Residential (5 ac min.) (RR-5)

Plan Area Parcels
Proposed Mixed Use Parcels

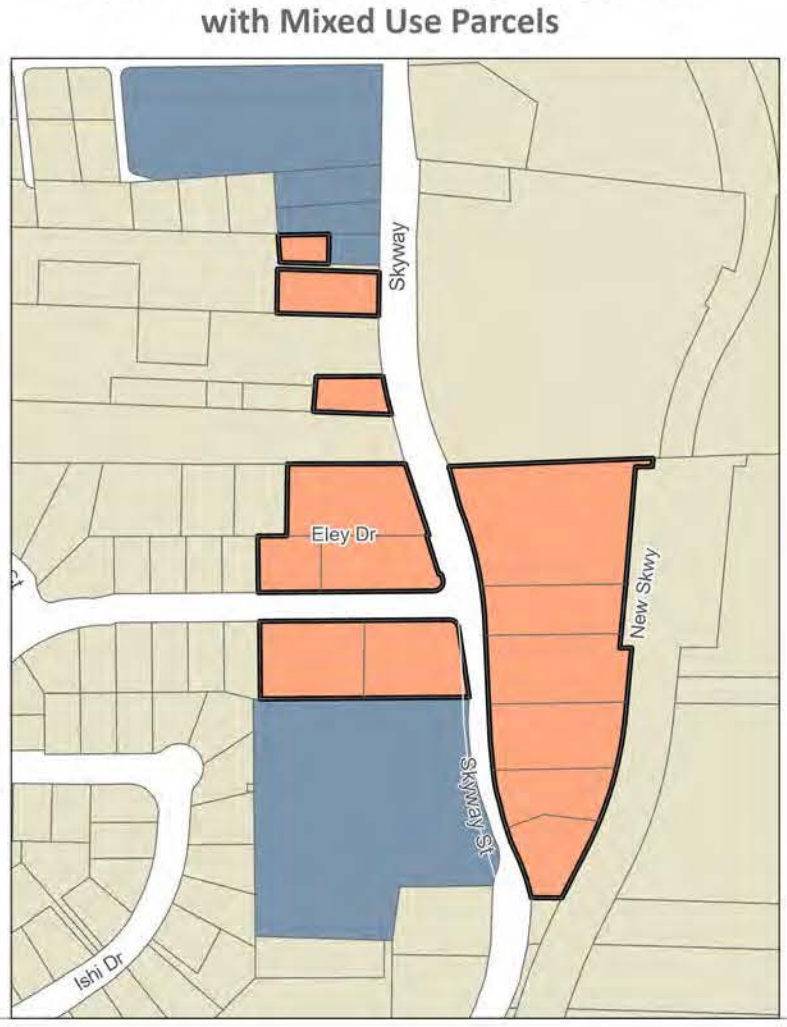
Proposed Zoning Designations within Plan Area

- General Commercial (G-C)
- Neighborhood Commercial (N-C)
- Public (P)
- Resource Conservation (40 ac min) (RC)
- Mixed Use (MU)
- Recreation/Commercial (REC)
- Rural Residential (5 ac min.) (RR-5)

Proposed Magalia Center Zoning Designations with Mixed Use Parcels



Proposed Old Magalia Zoning Designations with Mixed Use Parcels



Source: ESRI, 2022

Figure 3-6
Proposed Zoning Designations in the Upper Ridge Community Plan Area

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3.4.5 PROJECT PERMITS AND APPROVALS

The proposed project would be adopted solely by the County. However, some State agencies must review sections of the General Plan before the County may adopt it. For example, California Department of Housing and Community Development approval is required before the County can adopt its Housing Element. Similarly, at least 90 days prior to the adoption or amendment of a safety element, counties that contain State Responsibility Areas and cities or counties that contain Very High Fire Hazard Severity Zones, which is the case in Butte County, must submit their safety element to the Board of Forestry and Fire Protection for approval.

Future development would need to conform to applicable development and design standards and be consistent with the General Plan Update policies. Depending on the proposal, a future development project may be exempt from CEQA review because a CEQA exemption applies or the approval is ministerial,[14] or a project may require further environmental review and subsequent analysis in a negative declaration, mitigated negative declaration, or environmental impact report. Projects may be ministerial and require no discretionary action or may require review and approval by the Planning Division, the Planning Commission, and/or the Board of Supervisors, and other agencies as needed. County permits would be needed for the construction of all structures, to allow for certain uses or events within the General Plan area, and to approve encroachments in the right-of-way.

Additionally, the following would be required to be adopted to implement the proposed project:

- Certify the EIR
- Adopt the General Plan and URCP
- Modify the Zoning Code to reflect changes in the General Plan

3.4.6 INTENDED USES OF THIS EIR

This is a Program EIR that examines the potential environmental impacts of the proposed project. This DEIR also addresses various actions by the County to adopt and implement the General Plan Update. This EIR serves as a Program EIR under CEQA Guidelines section 15168. According to CEQA Guidelines 15168(b), use of a program EIR can provide advantages, including:

1. Provide an occasion for a more exhaustive consideration of effects and alternatives than would be practical in an EIR on an individual action.
2. Ensure consideration of cumulative impacts that might be slighted in a case-by-case analysis.
3. Avoid duplicative reconsideration of basic policy considerations.
4. Allow the Lead Agency to consider broad policy alternatives and program wide mitigation measures at an early time when the agency has greater flexibility to deal with basic problems or cumulative impacts.

[14] Projects may be ministerial, which means that they do not require any discretionary review.

5. Allow reduction in paperwork.

As a Program EIR, this document focuses on the overall effects of the proposed General Plan Update. The analysis does not examine the effects of any potential specific projects that may occur during the lifespan of the proposed General Plan Update. Further, the nature of general plans is such that some proposed policies are intended to be more qualitative, with specific details to be determined upon development of a specific project. No development or subdivision maps are being requested as a part of this project. Any impacts associated with subdivision or development that are not fully evaluated within the scope of this EIR may require further environmental analysis. However, the County envisions that this Program EIR may be used to eliminate or reduce the scope of future environmental review for individual projects that are consistent with the General Plan pursuant to CEQA Guidelines Section 15183 and other streamlining provisions authorized by CEQA.

It is the intent of this DEIR is to evaluate the environmental impacts of the project, thereby enabling the County, other responsible agencies, and interested parties to make informed decisions with respect to the requested entitlements.

3.5 REFERENCES

Butte County Association of Governments (BCAG). 2020, September. Technical Methodology for Preparing 2020 Regional Transportation Plan / Sustainable Communities Strategy Land Use Allocations, Appendix C, Model Code: 6.1, Model Classification: Mixed Use Retail, Jurisdiction: Magalia. http://www.bcag.org/documents/planning/RTP%20SCS/2020%20RTP%20SCS/Appendices/Appendix%206-6a%20Final.pdf.

Butte, County of. 2022, September 9 (Accessed). Development Services Information Webmap. https://gisportal.buttecounty.net/portal/apps/webappviewer/index.html?id=e8ee08e0672d48c8862fd3233e394027.

———. 2012, May 31. Butte County General Plan 2030 Draft Supplemental EIR, Table 3-2. https://www.buttecounty.net/Portals/10/Planning/General%20Plan/Butte_SuppEIR_PublicReview.pdf?ver=2019-11-12-103207-967.

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4. Environmental Setting

4.1 INTRODUCTION

The purpose of this chapter is to provide, pursuant to provisions of the California Environmental Quality Act (CEQA) and the State CEQA Guidelines Section 15125, a "description of the physical environmental conditions in the vicinity of the project, as they exist at the time of the notice of preparation is published, from both a local and a regional perspective." The environmental setting will provide the baseline physical conditions from which the lead agency will determine the significance of environmental impacts resulting from the project. Sections of Chapter 5, *Environmental Analysis*, provide more detailed descriptions of the local environmental setting for the environmental topical areas. Individual environmental topical sections also expand on the context in which cumulative environmental impacts are analyzed.

For many of the environmental impacts, the setting is within the boundaries of the county, including land inside each municipality's sphere of influence (SOI). However, for some environmental topical sections—air quality, biological resources, greenhouse gas (GHG) emissions, and transportation—the setting is the regional context or larger. Section 4.2, Regional Environmental Setting, expands on the regional environmental context that plays a role in determining potential cumulative impacts throughout the environmental impact report (EIR). Section 4.5, Assumptions Regarding Cumulative Impacts, describes the methods used to analyze cumulative impacts as well as the cumulative setting for each topical area.

4.2 REGIONAL ENVIRONMENTAL SETTING

4.2.1 REGIONAL LOCATION

Butte County is in the California Central Valley, north of Sacramento. Butte County covers approximately 1,073,000 acres, including the Chico Metropolitan Statistical Area. Butte County is bordered by Tehama County to the north, Plumas County to the east, Yuba and Sutter Counties to the south, and Glenn County to the west. Highways 70 and 99, which extend in a north to south direction through Butte County, are the principal transportation corridors connecting the county to the region. Highways 32 and 162 provide subregional connections to areas to the east, northeast, and west of the county and to Interstate 5.

4.2.2 REGIONAL PLANNING CONSIDERATIONS

4.2.2.1 BUTTE COUNTY ASSOCIATION OF GOVERNMENTS

The Butte County Association of Governments (BCAG) region includes all local governments within Butte County. BCAG is responsible for preparing the federally required regional transportation plan (RTP) and the state-required Sustainable Communities Strategy (SCS) in coordination with the five incorporated

cities/town in the county (cities of Biggs, Chico, Gridley, Oroville, and the Town of Paradise). The RTP/SCS specifies policies, projects, and programs necessary over a 20+ year period to maintain, manage, and improve the region's transportation system. The primary objective of the SCS is to meet GHG reduction targets established by the State by reducing vehicle trips. BCAG adopted the 2016 RTP/SCS in November 2016. The 2016 RTP/SCS sets a regional target of a 6 percent reduction in per-capita GHG emissions for the planning year 2020 and a 7 percent reduction in per-capita GHG emissions in planning year 2035, as compared to baseline per-capita emissions levels in 2005. The 2016 MTP/SCS outlines the region's proposed transportation network, emphasizing multimodal system enhancements, system preservation, and improved access to high-quality transit, as well as land use development that complements this transportation network. In December 2016, the California Air Resources Board (CARB) accepted BCAG's determination that the 2016 RTP/SCS would meet the region's GHG reduction targets.

4.2.2.2 NORTHERN SACRAMENTO VALLEY PLANNING AREA 2021 TRIENNIAL AIR QUALITY ATTAINMENT PLAN

Butte County lies in the eastern portion of the Northern Sacramento Valley Air Basin (NSVAB), which is managed by the Butte County Air Quality Management District (BCAQMD). The Northern Sacramento Valley Planning Area (NSVPA) includes Butte, Colusa, Glenn, Shasta, Sutter, Tehama, and Yuba counties. The Northern Sacramento Valley Air Basin (NSVAB) is synonymous with the NSVPA. Pollutants emitted into the ambient air by stationary and mobile sources are regulated by federal and state law, and standards are detailed in the NSVPA Air Quality Attainment Plan (AQAP). Air pollutants for which ambient air quality standards (AAQS) have been developed are known as criteria air pollutants, including ozone (O_3), carbon monoxide (CO), volatile organic compounds (VOC), nitrogen oxides (NO_x), sulfur dioxide, coarse inhalable particulate matter (PM_{10}), fine inhalable particulate matter ($PM_{2.5}$), and lead. VOC and NO_x are criteria pollutant precursors and go on to form secondary criteria pollutants, such as O_3, through chemical and photochemical reactions in the atmosphere. Air basins are classified as attainment/nonattainment areas for particular pollutants depending on whether they meet AAQS for that pollutant.

This plan is intended to comply with the requirements of the California Clean Air Act related to bringing the region into compliance with the CAAQS for O_3. BCAQMD has prepared several triennial progress reports that build on the 1991 Air Quality Attainment Plan. The 2021 Triennial Air Quality Attainment Plan is the most recent report. The triennial progress report describes historical trends in air quality, includes updated emissions inventories, and identifies feasible control measures that the BCAQMD will study or adopt over the triennial period. The plan was adopted by the BCAQMD in coordination with the air quality management districts and air pollution control districts for the counties in the northern portion of the Sacramento Valley, including Colusa, Glenn, Shasta, Sutter, Tehama, and Yuba Counties, and incorporates land use assumptions and travel demand modeling provided by BCAG.

4.2.2.3 GREENHOUSE GAS EMISSIONS REDUCTION LEGISLATION

Current State of California guidance and goals for reductions in GHG emissions are generally embodied in a number of State regulations. Executive Order S-03-05, signed June 1, 2005, set the following GHG reduction goals for the State of California:

- 2000 levels by 2010

- 1990 levels by 2020
- 80 percent below 1990 levels by 2050

Assembly Bill (AB) 32, the Global Warming Solutions Act (2006), was passed by the State legislature on August 31, 2006, to place the state on a course toward reducing its contribution of GHG emissions. AB 32 established a legislative target for the year 2020 goal outlined in Executive Order S-03-05. CARB prepared its first Scoping Plan in 2008 that outlined the State's plan for achieving the 2020 targets of AB 32.

In 2008, Senate Bill (SB) 375 was adopted to connect passenger-vehicle GHG emissions reduction targets for the transportation sector to local land use decisions that affect travel behavior. Its intent is to reduce GHG emissions from light-duty trucks and automobiles by aligning regional long-range transportation plans, investments, and housing allocations to local land use planning to reduce vehicle miles traveled (VMT) and vehicle trips.

In September 2016, Governor Brown signed SB 32, making the Executive Order B-15-30 goal for year 2030 of a 40 percent reduction below 1990 levels by 2030 into a statewide-mandated legislative target. CARB issued an update to its Scoping Plan in 2017, with programs for meeting the SB 32 reduction target.

Executive Order B-55-18 sets a goal for the state to achieve carbon neutrality no later than 2045 and to achieve and maintain net negative emissions thereafter. SB 100 would help the state reach the goal set by Executive Order B-55-18 by requiring that the state's electricity suppliers have a source mix that consists of at least 60 percent renewable/zero carbon sources in 2030 and 100 renewable/zero carbon sources in 2045.

4.2.2.4 SENATE BILL 743

On September 27, 2013, SB 743 was signed into law and started a process that has fundamentally changed transportation impact analysis for CEQA compliance. With the adoption of SB 375, the state signaled its commitment to encourage land use and transportation planning decisions and investments that reduce VMT and contribute to the reduction of GHG emissions, as required by the California Global Warming Solutions Act of 2006 (AB 32).

SB 743 generally eliminates auto delay, level of service, and other similar measures of vehicular capacity or traffic congestion as the basis for determining significant impacts under CEQA. Pursuant to the CEQA Guidelines, the new criteria "shall promote the reduction of greenhouse gas emissions, the development of multimodal transportation networks, and a diversity of land uses" (Public Resources Code Section 21099[b][1]).

Pursuant to SB 743, the Natural Resources Agency adopted revisions to the CEQA Guidelines to implement SB 743 on December 28, 2018. Under the new guidelines, VMT-related metric(s) that evaluate the significance of transportation-related impacts under CEQA for development projects, land use plans, and transportation infrastructure projects, were required beginning July 1, 2020. The legislation does not preclude the application of local general plan policies, zoning codes, conditions of approval, or any other planning requirements for evaluation of level of service, but these metrics can no longer be the basis for determining transportation impacts under CEQA.

4.2.2.5 REGIONAL WATER QUALITY CONTROL BOARD, SACRAMENTO RIVER BASIN, CENTRAL VALLEY REGION 5

Under the Porter-Cologne Water Quality Control Act, California's water quality control law, the State Water Resources Control Board has ultimate control over water quality policy and allocation of state water resources. Through its nine Regional Water Quality Control Boards, the State Water Resources Control Board carries out the regulation, protection, and administration of water quality in each region. Each regional board is required to adopt a water quality control plan or basin plan. Butte County is in the Sacramento River Basin, Central Valley Region 5.

Sacramento River Basin and San Joaquin River Basin Plan

The Water Quality Control Plan for the Sacramento River Basin was last updated in 2019. This Basin Plan covers the entire Sacramento and San Joaquin River Basins. This Basin Plan gives direction on the beneficial uses of the state waters within Region 5; describes the water quality that must be maintained to support such uses; and provides programs, projects, and other actions necessary to achieve the standards in the Basin Plan.

4.3 LOCAL ENVIRONMENTAL SETTING

4.3.1 LOCATION AND LAND USE

This section describes the proposed land use designations and land use map of General Plan 2040. The General Plan 2040 land use map is shown in Figure 3-3 in Chapter 3. General Plan 2040 defines various land use designations by their allowable uses and maximum densities and intensities. The land use designations described in General Plan 2040 establish the types and intensity or density of uses allowed on each parcel; these densities and intensities are listed in Table 3-1, *General Plan 2040 and Proposed Land Use Designation Acres*. Table 3-2, *Upper Ridge Community Plan Buildout Projections*, provides the acreage for each land use designation.

In General Plan 2040, standards of building density for residential uses are stated as the allowable range of dwelling units per gross acre. This means that the number of allowable units on a parcel can be calculated by multiplying the number of acres by the allowable density. Second dwelling units are not included in the density calculations.

Standards of building intensity for nonresidential uses are stated as maximum floor-area ratios (FAR) based on gross acreage. FAR is a ratio of the gross building square footage permitted on a lot to the gross square footage of the lot. For example, on a site with 10,000 square feet of land area, a FAR of 1.0 will allow 10,000 gross square feet of building floor area to be built. On the same site, a FAR of 2.0 would allow 20,000 square feet of floor area (e.g., a two-story building with 100 percent of lot coverage, or a four-story building with 50 percent lot coverage), and a FAR of 0.4 would allow 4,000 square feet of floor area. The following sections describe the proposed land use designations for General Plan 2040.

Agriculture

This designation allows the cultivation, harvest, storage, processing, sale, and distribution of all plant crops, especially annual food crops, as well as roadside stands for the sale of agricultural products grown or processed on the property. The Agriculture designation also allows livestock grazing, animal husbandry, intense animal uses, and animal matter processing. Alternative energy facilities are allowed in the Agriculture designation, subject to permit requirements. Residential uses in the Agriculture land use designation are limited to one single-family dwelling and a second dwelling unit per legal parcel.

Farm labor housing is also permitted. The minimum parcel size ranges from 20 to 320 acres, although existing parcels smaller than the minimum may remain as legal nonconforming parcels.

Agriculture Services

This designation allows all agricultural uses described under Agriculture, as well as agriculture-related services that are complementary to existing agricultural uses, including industrial uses, such as processing facilities; commercial uses, such as agricultural equipment sales; and technologies that use agricultural byproducts. Alternative energy facilities are allowed in the Agriculture Services designation, subject to permit requirements. No residential uses are allowed, except for caretakers' residences. This designation allows for a maximum FAR of 0.8.

Timber Mountain

This designation allows forest management and the harvesting and processing of forest products. Lands zoned Timber Preserve are located in this designation. Alternative energy facilities are allowed in the Timber Mountain designation, subject to permit requirements. Residential uses are limited to one single-family dwelling per legal parcel. The minimum parcel size is 160 acres, although existing parcels smaller than that minimum may remain as legal nonconforming parcels.

Resource Conservation

This designation allows natural, wilderness, and study areas, as well as limited recreational and commercial recreational uses that do no not substantially detract from the area's value for habitat, open space, or research. Residential uses are limited to one single-family dwelling per legal parcel, except in the North Chico Specific Plan area, where residential uses in the Resource Conservation designation are prohibited. Existing parcels smaller than the minimum may remain as legal nonconforming parcels. The minimum parcel size is 40 acres.

Foothill Residential

This designation allows single-family dwellings at rural densities of 1 to 40 acres per dwelling unit, depending on the zoning. Existing parcels smaller than the minimum may remain as legal nonconforming parcels.

Rural Residential

This designation allows single-family dwellings at rural densities of 1 dwelling unit per 5 acres or more (up to 0.2 units per acre). Existing parcels smaller than the minimum may remain as legal nonconforming parcels.

Very Low-Density Residential

This designation allows single-family dwellings at densities from 1 dwelling unit per 5 acres to 1 dwelling unit per acre (0.2 to 1 units per acre). Existing parcels smaller than the minimum may remain as legal nonconforming parcels.

Low-Density Residential

This designation allows single-family dwellings at densities of 1 to 3 dwelling units per acre. Existing parcels smaller than the minimum may remain as legal nonconforming parcels.

Medium-Density Residential

This designation allows detached and attached single-family dwellings at densities of 3 to 6 dwelling units per acre. Existing parcels smaller than the minimum may remain as legal nonconforming parcels.

Medium High-Density Residential

This designation allows a mixture of urban residential uses, including detached and attached single-family homes, duplexes, townhomes, condominiums, multiple-dwelling structures, mobile home parks, group quarters, and care homes, at densities of 6 to 14 dwelling units per acre. Existing parcels smaller than the minimum may remain as legal nonconforming parcels.

High-Density Residential

This designation allows higher-density urban residential uses, including townhomes, condominiums, multiple-dwelling structures, mobile home parks, group quarters, and care homes, at densities of 14 to 20 dwelling units per acre. Existing parcels smaller than the minimum may remain as legal nonconforming parcels.

Very High-Density Residential

This designation allows high-density urban residential uses, including townhomes, condominiums, multiple-dwelling structures, mobile home parks, group quarters, and care homes, at densities of 20 to 30 dwelling units per acre. This designation is not applied to any parcels in the county in the General Plan 2030 land use map but may be applied through General Plan Amendments in the future. Existing parcels smaller than the minimum may remain as legal nonconforming parcels.

Mixed Use

This designation allows mixed but compatible uses in close proximity to each other, including residential, retail, service, lodging, and office uses. Townhomes, garden apartments, apartments, live/work units, and condominiums are the types of residences that would typically be found in this designation.

Mixed-use buildings with two or more uses in the same structure are encouraged in this designation, but single-use residential, retail, or office buildings are also allowed. Since this designation allows for both residential and commercial uses, it allows a wider residential density range and a higher FAR than other designations and is applied to areas along major roads with adequate infrastructure and amenities to support higher densities. This designation allows 4 to 20 dwelling units per acre and a maximum FAR of 0.5.

Retail and Office

This designation allows structures and activities providing a full range of merchandise and services to the general public, as well as professional/office uses. Residential uses are allowed when it can be shown that such uses will be operated in conjunction with a commercial use. This designation allows for a maximum FAR of 0.4.

Recreation Commercial

This designation allows recreation and tourism-related uses. Examples of uses that are considered appropriate under this designation include, but are not limited to, golf courses, eating and drinking establishments, food and beverage sales, wedding facilities, gasoline service stations, public buildings, hotels and motels, offices, owner-occupied residences, recreational vehicle (RV) parks, resorts, and vacation cabins. Many uses under this designation are subject to a conditional use permit to ensure compatibility with surrounding uses. However, uses that do not typically conflict with other uses, such as a passive recreation park, are permitted as of right. This designation allows for a maximum FAR of 0.4.

Sports and Entertainment

This designation allows sports and entertainment uses as primary uses, including sports facilities, golf courses, theaters, and amphitheaters, as well as a range of related commercial uses that are compatible with the primary uses. The related uses may include localized retail, commercial retail, and service establishments. This designation allows for a maximum FAR of 0.4.

Industrial

This designation allows the processing, manufacturing, assembly, packaging, storage, and distribution of goods and commodities. It also allows for warehouses, storage, logistics centers, trucking terminals, and railroad facilities. Alternative energy facilities are allowed in the Industrial designation, subject to permit requirements. In addition, this designation allows hazardous waste management facilities where it can be demonstrated that potential environmental impacts can be mitigated. Industrial uses are allowed by right where applicants can demonstrate that adequate existing services are already available. This designation allows for a maximum FAR of 0.4.

Research and Business Park

This designation allows office, research, and technology-related uses, and is intended to promote green industry. The allowed uses are narrowly defined to ensure compatibility between uses. Following is a partial, representative listing of the primary permitted uses:

- High and advanced technology; research and development; laboratories, including university-based research; and facilities used for testing and analysis of products or uses.
- Business and professional corporate headquarters, regional offices, and data processing facilities.
- Educational facilities associated with energy, design, construction, agriculture, manufacturing, or utility technologies.
- Clean energy generation, production, or distribution facilities.
- Agricultural finished product manufacturing facilities.
- Cultural, recreational, agricultural, and environmental tourism facilities and centers.

Industrial uses are limited to those manufacturers who are engaged in the production of low-volume, high-value products and particularly advanced technology products. Businesses requiring outdoor production and storage are prohibited. This designation allows for a maximum FAR of 0.5.

Public

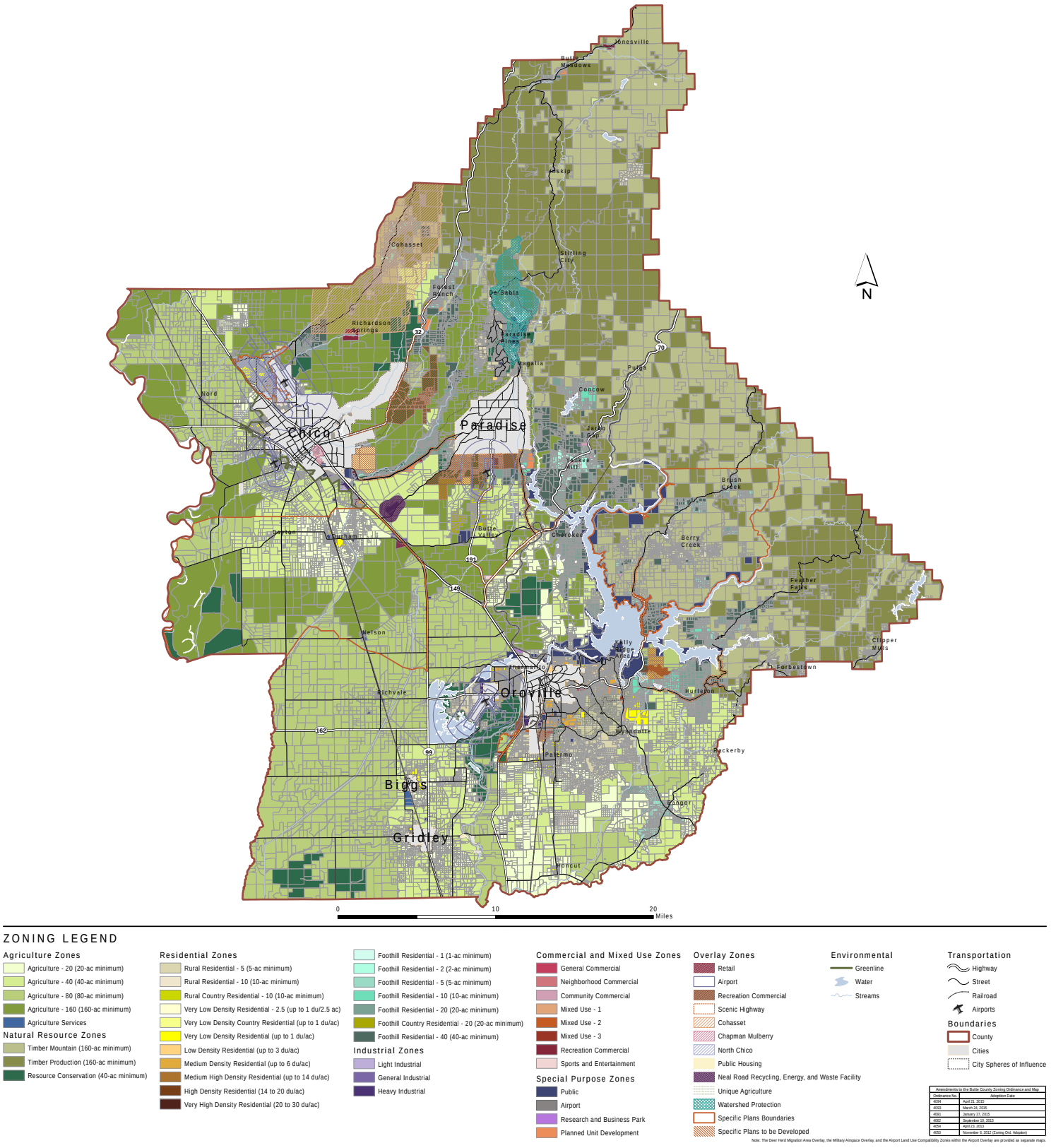
This designation allows large facilities owned and operated by government agencies, including schools, colleges, airports, dams and reservoirs, disposal sites, recreation facilities, conservation areas, fire stations, and other government buildings and property. Alternative energy facilities are allowed in the Public designation, subject to permit requirements. It also allows quasi-public uses, such as churches, hospitals, private schools, day cares, cemeteries, and educational and institutional uses.

Planned Unit Development

This designation identifies future developments that will be considered under a Planned Unit Development application. The intent of this designation is to encourage and maximize opportunities for more integrated, flexible, and superior design than is available through the application of conventional regulation.

4.3.2 GENERAL PLAN AND ZONING

In Chapter 3, *Project Description*, Table 3-1, *General Plan 2020 and Proposed Land Use Designation Acres*, and Figure 3-3, *General Plan 2040 Land Use Map*, show the land use designations regulating development in the county. Figure 4-1, *Existing Zoning, Butte County*, shows the zoning districts in the county.



ZONING LEGEND

Agriculture Zones
- Agriculture - 20 (20-ac minimum)
- Agriculture - 40 (40-ac minimum)
- Agriculture - 80 (80-ac minimum)
- Agriculture - 160 (160-ac minimum)
- Agriculture Services

Natural Resource Zones
- Timber Mountain (160-ac minimum)
- Timber Production (160-ac minimum)
- Resource Conservation (40-ac minimum)

Residential Zones
- Rural Residential - 5 (5-ac minimum)
- Rural Residential - 10 (10-ac minimum)
- Rural Country Residential - 10 (10-ac minimum)
- Very Low Density Residential - 2.5 (up to 1 du/2.5 ac)
- Very Low Density Country Residential (up to 1 du/ac)
- Very Low Density Residential (up to 1 du/ac)
- Low Density Residential (up to 3 du/ac)
- Medium Density Residential (up to 6 du/ac)
- Medium High Density Residential (up to 14 du/ac)
- High Density Residential (14 to 20 du/ac)
- Very High Density Residential (20 to 30 du/ac)
- Foothill Residential - 1 (1-ac minimum)
- Foothill Residential - 2 (2-ac minimum)
- Foothill Residential - 5 (5-ac minimum)
- Foothill Residential - 10 (10-ac minimum)
- Foothill Residential - 20 (20-ac minimum)
- Foothill Country Residential - 20 (20-ac minimum)
- Foothill Residential - 40 (40-ac minimum)

Industrial Zones
- Light Industrial
- General Industrial
- Heavy Industrial

Commercial and Mixed Use Zones
- General Commercial
- Neighborhood Commercial
- Community Commercial
- Mixed Use - 1
- Mixed Use - 2
- Mixed Use - 3
- Recreation Commercial
- Sports and Entertainment

Special Purpose Zones
- Public
- Airport
- Research and Business Park
- Planned Unit Development

Overlay Zones
- Retail
- Airport
- Recreation Commercial
- Scenic Highway
- Cohasset
- Chapman Mulberry
- North Chico
- Public Housing
- Neal Road Recycling, Energy, and Waste Facility
- Unique Agriculture
- Watershed Protection
- Specific Plans Boundaries
- Specific Plans to be Developed

Note: The Deer Herd Migration Area Overlay, the Military Airspace Overlay, and the Airport Land Use Compatibility Zones within the Airport Overlay are provided as separate maps.

Environmental
- Greenline
- Water
- Streams

Transportation
- Highway
- Street
- Railroad
- Airports

Boundaries
- County
- Cities
- City Spheres of Influence

Amendments to the Butte County Zoning Ordinance and Map

Ordinance No.	Adoption Date
4094	April 21, 2015
4093	March 24, 2015
4091	January 27, 2015
4082	September 10, 2013
4054	April 23, 2013
4050	November 6, 2012 (Zoning Ord. Adoption)

Source: Butte County, 2015

Figure 4-1
Existing Zoning, Butte County

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4.4 SUMMARY OF EXISTING LAND USES

4.4.1 UNINCORPORATED COUNTY

Table 4 1, *Summary of Existing Land Uses*, shows the distribution of existing land uses in Butte County as of October 2022.

TABLE 4-1 SUMMARY OF EXISTING LAND USES

Land Use	Area (acres)	Area
Agriculture*	474,670	46.04%
Agriculture Services*	530	0.05%
Timber Mountain*	349,700	33.92%
Resource Conservation*	37,260	3.61%
Foothill Residential*	62,580	6.07%
Rural Residential*	32,400	3.14%
Very Low-Density Residential	11,070	1.07%
Low-Density Residential*	2,470	0.24%
Medium-Density Residential	6,150	0.60%
Medium High-Density Residential*	490	0.05%
High-Density Residential	70	0.01%
Mixed Use*	1,040	0.10%
Retail and Office*	1,430	0.14%
Recreation Commercial*	930	0.09%
Sports and Entertainment	100	0.01%
Industrial*	2,390	0.23%
Research and Business Park	100	0.01%
Public*	31,240	3.03%
Planned Unit Development*	890	0.09%
Undesignated rights-of-way*	15,410	1.49%
Total	**1,030,910**	**100.0%**

*Land Use Designations also within the Upper Ridge Community Plan

As shown in Table 4-1, agriculture and timber uses make up approximately 46 percent and 34 percent, respectively, of land uses in the county.

Table 4-2, *Density and Intensity Allowed by General Plan 2040 Land Use Designations*, shows the density and intensity under each current land use designation.

TABLE 4-2 DENSITY AND INTENSITY ALLOWED BY GENERAL PLAN 2040 LAND USE DESIGNATIONS

Current General Plan Land Use Designation	Allowable Range of Residential Density	Allowable Maximum Floor Area Ratio
Agriculture	1 unit per 20 to 320 acres	
Agriculture Services		0.8
Timber Mountain	1 unit per 160 acres	
Resource Conservation	1 unit per 40 acres	
Foothill Residential	1 unit per 40 acres	
Rural Residential	1 unit per 5 acres or more	
Very Low Density Residential	unit per 5 acres to 1 unit per acre	
Low Density Residential	1 to 3 units per acre	
Medium Density Residential	3 to 6 units per acre	
Medium High Density Residential	6 to 14 units per acre	
High Density Residential	14 to 20 units per acre	
Mixed Use	20 to 30 units per acre	0.5
Retail and Office	4 to 20 units per acre	0.4
Recreation Commercial		0.4
Sports and Entertainment		0.4
Industrial		0.4
Research and Business Park		0.5

Note: The Public and Planned Unit Development designations do not include density or intensity standards.
du/ac = dwelling unit(s) per acre
FAR = floor area ratio

4.4.2 UPPER RIDGE COMMUNITY PLAN AREA

The Upper Ridge Community Plan (URCP) area contains residential and commercial properties, schools and churches, and open space lands. Most of the area lies within the Magalia census designated place (CDP) boundary.

The URCP area is about 15 miles east of Chico and 90 miles north of Sacramento. Although close to the Sierra Nevada, it lies on a Cascade Range volcanic flow with soils and topography that differ from the Sierra foothills to the east. It is located at an elevation of 2,000 to 2,800 feet above sea level. Settlements in the Upper Ridge area occur, as the name implies, along the ridgetops between the valleys and washes that contain creeks. The area is bounded by two watersheds: Butte Creek to the west, and West Branch of the Feather River to the east. Two other creeks, the Little Butte Creek and the Middle Butte Creek, separate areas into discrete neighborhoods. Little Butte Creek is the source of water for Magalia Reservoir and Paradise Lake.

The URCP is an area composed of eight distinct neighborhoods in the Upper Ridge area, as well as open spaces within and adjacent to the neighborhoods. Each neighborhood in the URCP area has a unique community character influenced by a variety of factors, such as access points, geography, land uses, building types, development densities, and street characteristics.

4.5 ASSUMPTIONS REGARDING CUMULATIVE IMPACTS

Section 15130 of the CEQA Guidelines states that cumulative impacts shall be discussed when the project's incremental effect is cumulatively considerable. It further states that this discussion shall reflect the level and severity of the impact and the likelihood of occurrence, but not in as great a level of detail as that necessary for the project alone. Section 15355 of the CEQA Guidelines defines cumulative impacts as "…two or more individual effects which, when considered together, as considerable or which compound or increase other environmental impacts." Cumulative impacts represent the changes caused by the incremental impact of a project when added to the proposed or committed projects in the vicinity.

The CEQA Guidelines (Section 15130 [b][1]) state that the information used in an analysis of cumulative impacts should come from one of two sources:

1. A list of past, present, and probable future projects producing related cumulative impacts, including, if necessary, projects outside the control of the agency; or
2. A summary of projections in an adopted general plan or related planning document designed to evaluate regional or area-wide conditions.

Depending on the environmental category, the cumulative impact analysis may use either method one or two. The cumulative impacts analyses in this EIR use method two. The proposed project consists of the Butte County General Plan Update. Consistent with Section 15130(b)(1)(B) of the CEQA Guidelines, this EIR analyzes the environmental impacts of development in accordance with buildout of the proposed land use plan. As a result, this EIR addresses the cumulative impacts of development in Butte County and the region surrounding it, as appropriate. In most cases, the potential for cumulative impacts is contiguous with Butte County and land inside each municipality's SOI boundaries. Potential cumulative impacts that have the potential for impacts beyond the county boundaries (e.g., traffic, air quality, noise) have been addressed through cumulative growth in the county and region. Regional growth outside Butte County is accounted for in traffic, air quality, and noise impacts through use of the BCAG 2020 RTP Travel Demand Model, Model Development Report, which is a model that uses regional growth projections to calculate future traffic volumes. The growth projections adopted by the county and surrounding area are used for the cumulative impact analyses of this EIR. Refer to Chapter 5, *Environmental Analysis,* for a discussion of the cumulative impacts associated with development and growth in the county and region for each environmental resource topic. A summary of the extent of cumulative impacts by environmental topic follows.

- **Aesthetics:** Coterminous with Butte County and land inside each municipality's SOI boundaries.
- **Agricultural and Forestry Resources:** Coterminous with Butte County and land inside each municipality's SOI boundaries but considers regional resources.
- **Air Quality:** Based on the regional boundaries of the NSVAB.
- **Biological Resources:** Coterminous with Butte County and land inside each municipality's SOI boundaries but considers regional habitat loss in the northern California region based on the range of the protected species.
- **Cultural Resources:** Coterminous with Butte County and land inside each municipality's SOI boundaries.
- **Energy:** Coterminous with Butte County and land inside each municipality's SOI boundaries.

- **Geological Resources:** Coterminous with Butte County and land inside each municipality's SOI boundaries.
- **Greenhouse Gas Emissions:** Worldwide impacts based on the emissions sectors in the Scoping Plan in California (boundary).
- **Hazards and Hazardous Materials:** Coterminous with Butte County and land inside each municipality's SOI boundaries.
- **Hydrology and Water Quality:** Hydrology and water quality impacts would be within the Sacramento River Watershed and Sacramento Valley groundwater basins (i.e., East Side Basin, East Butte Subbasin, Vina Subbasin, and West Butte Subbasin), and flood impacts would be coterminous with Butte County and land inside each municipality's SOI boundaries.
- **Land Use and Planning:** Coterminous with Butte County and land inside each municipality's SOI boundaries but considers regional land use planning based on BCAG.
- **Mineral Resources:** Coterminous with Butte County and land inside each municipality's SOI boundaries.
- **Noise:** Coterminous with Butte County and land inside each municipality's SOI boundaries.
- **Population and Housing:** Coterminous with Butte County and land inside each municipality's SOI boundaries.
- **Public Services:** Within the service area boundaries of the Butte County Sheriff's Office, the California Highway Patrol, Butte County Fire Department, the California Department of Forestry and Fire Protection, eight school districts (Bangor, Feather Falls, Golden Feather, Manzanita, Oroville City, Palermo, Pioneer, and Thermalito), and Butte County Library.
- **Recreation:** Coterminous with Butte County and land inside each municipality's SOI boundaries.
- **Transportation and Traffic:** Considers regional transportation improvements identified in the BCAG's 2016 RTP/SCS and Travel Demand Model, and regional growth projections in the Butte County Long-Term Regional Growth Forecasts 2014-2040.
- **Tribal Cultural Resources:** Coterminous with Butte County and land inside each municipality's SOI boundaries.
- **Utilities and Service Systems:** Water supply and distribution system impacts would be within the service areas of California Water Service Company, Oroville; Gran Mutual Water Company; Lake Madrone Water District; Del Oro Water Company; Lime Saddle District; Magalia District; Paradise Pines District; Stirling Bluffs District; Durham Irrigation District; South Feather Water and Power Agency; Paradise Irrigation District; Thermalito Water and Sewer District; storm drainage systems would be within the Sutter Butte Flood Control Agency service area; solid waste collection and disposal services would be in the Butte Regional Solid Waste Management Authority service areas; natural gas and electricity services would be within the Pacific Gas and Electric Company (PG&E) service areas, respectively.
- **Wildfire:** Within the service area boundaries of the Butte County Fire Department, CAL FIRE, and United States Forest Service (USFS).

5.1 AESTHETICS

This chapter describes the regulatory framework and existing conditions on the project site related to aesthetics, and the potential impacts of the project on aesthetics.

5.1.1 ENVIRONMENTAL SETTING

5.1.1.1 REGULATORY FRAMEWORK

This section summarizes key State and County regulations and programs related to aesthetics in Butte County.

State Regulations

California Building Code

The 2019 Edition of the California Building Code, Part 2 of Title 24 in the California Code of Regulations (CCR), is based on the 2018 International Building Code and combines three types of building standards from three different origins:

- Building standards that have been adopted by State agencies without change from building standards contained in the International Building Code.
- Building standards that have been adopted and adapted from the International Building Code to meet California conditions.
- Building standards, authorized by the California legislature, which constitute extensive additions not covered by the International Building Code that have been adopted to address particular California concerns.

The California Building Code also includes standards for outdoor lighting that are intended to improve energy efficiency, and to reduce light pollution and glare by regulating light power and brightness, shielding, and sensor controls.

California Scenic Highway Program

California's Scenic Highway Program was created by the State legislature in 1963. Its purpose is to protect and enhance the natural scenic beauty of California highways and adjacent corridors through special conservation treatment. The State laws governing the Scenic Highway Program are found in the Streets and Highways Code, Sections 260 through 263.

When a city or county nominates an eligible scenic highway for official designation, it must identify and define the scenic corridor of the highway. Scenic corridors consist of land that is visible from the highway right-of-way and consists primarily of scenic and natural features. Topography, vegetation, viewing distance, and/or jurisdictional lines determine the corridor boundaries. The city or county must also adopt ordinances, zoning, and/or planning policies to preserve the scenic quality of the corridor or document such regulations that already exist in various portions of local codes. These ordinances and/or policies make up

the Corridor Protection Program. The status of a proposed State scenic highway changes from "eligible" to "officially designated" when the local governing body applies to the California Department of Transportation (Caltrans) for scenic highway approval, adopts a Corridor Protection Program, and receives notification that the highway has been officially designated a Scenic Highway.

Local Regulations

Butte County General Plan 2030

The following policies are included in the existing General Plan regarding aesthetics. The numbering is from the existing General Plan (see web address to existing plan) and therefore may not be consecutive.

Land Use Element

- Goal LU-3 Create communities where there is a sense of well-being where families and neighbors can socialize, interact, and play.
    - LU-P3.1 The County shall encourage connectivity and a sense of community in all newly developed neighborhoods.
    - LU-P3.2 Newly developed neighborhoods shall include parks and recreation facilities. Sidewalks, bike paths, and other routes shall provide circulation to surrounding areas.
    - LU-P3.3 Newly developed neighborhoods shall create a safe environment by providing adequate lighting and clearly marked crosswalks.

Conservation and Open Space Element

- Goal COS-17 Maintain and enhance the quality of Butte County's scenic and visual resources.
    - COS-P17.1 Views of Butte County's scenic resources, including water features, unique geologic features, and wildlife habitat areas, shall be maintained.
    - COS-P17.2 Ridgeline development near scenic resources shall be limited via the adoption of specific development guidelines in order to minimize visual impacts.
- Goal COS-18 Protect and enhance scenic areas adjacent to and visible from highways for enjoyment by residents and visitors.
    - COS-P18.1 The County shall designate scenic corridors based on careful consideration of the following factors:
        a. Relationship to the scenic highway system, including proximity to urban population centers, gateways, integration with other highways and scenic highways and access to major recreation areas.
        b. Safety characteristics, including road surface and alignment, shoulder width, traffic levels, number of intersections, access points, turnouts, and rest areas.
        c. Scenic characteristics, including vista points, geologic resources, native plant and animal species, waterways, historic resources and agricultural, timber and recreation uses.

d. Government policies, including public lands, eligibility for State scenic highway designation, and consistency with other Butte County General Plan 2030 elements.

e. Economic impacts on properties affected by a scenic highway designation.

- COS-P18.2 To enhance safety on scenic highways, the County shall limit access, using existing access where feasible, and limit encroachment permits.
- COS-P18.3 The County shall require utility companies to choose the least conspicuous locations for distribution lines, so as to avoid impacts to scenic corridors where there is reasonable choice.

Butte County Outdoor Lighting Standards

Chapter 24, Zoning, of the Butte County Municipal Code establishes the Butte County Zoning Ordinance, which includes standards for outdoor lighting in residential areas to reduce light trespass and glare, to protect the health, property, and well-being of County residents and visitors. Section 24-67, Standards, requires that all outdoor lighting in residential areas "be located, adequately shielded, and directed such that no direct light falls outside the property line, or into the public right-of-way."

5.1.1.2 EXISTING CONDITIONS

Butte County possesses numerous scenic resources, many of which are found in the natural areas within the unincorporated county. These resources enhance the quality of life for Butte County residents and are a significant attraction that brings tourists to the region. This section reviews and summarizes Butte County's key scenic resources, which are mapped on Figure 5.1-1, *Scenic Resources*.

Natural Scenic Resources

Butte County encompasses an outstanding variety of natural vistas and landscapes. The following section describes the significant scenic resources found in the county, as appeared in the existing Butte County General Plan. These various resources are mapped in Figure 5.1-1 and include the following:

- Table Mountain Spring Floral Area. The lava flow that now tops Table Mountain brings an explosion of color each year in the form of native wildflowers. Over 3,300 acres of North Table Mountain is protected as an ecological reserve by the California Department of Fish and Wildlife.
- Central Buttes. Rising from the valley floor, these geologic features are remnants of the surrounding landform that eroded around them over the millennia. Many of these buttes are visible from State Routes 99, 149, and 70.
- Sacramento River and its Riparian Corridor. Some of the county's richest habitat and most beautiful views are found along the Sacramento River and its associated riparian corridor. State and federal agencies have acquired significant portions of the riparian corridor to help protect this resource.

- **Butte Creek Canyon.** The Skyway provides views to a dramatic and panoramic display of the topographic and geologic features of Butte Creek Canyon. A portion of this canyon is protected as an ecological reserve by the California Department of Fish and Wildlife.
- **Lake Oroville.** Lake Oroville provides many scenic vistas from several highways that traverse its shores, while providing an assortment of recreational activities for residents and visitors.
- **Philbrook Lake.** Pacific Gas and Electric Company owns the Philbrook Reservoir, a tranquil mountain lake nestled between several scenic mountain outcroppings.
- **Feather Falls Scenic Area Features**. The Feather Falls Scenic Area, part of the Plumas National Forest, includes granite domes, such as Bald Rock, and waterfalls, such as Feather Falls and Seven Falls.
- **Seasonal Scenic Resources.** Many tourists visit the orchards in the valley areas of Butte County during the early spring when almonds and other trees are blossoming.

Scenic Water Resources

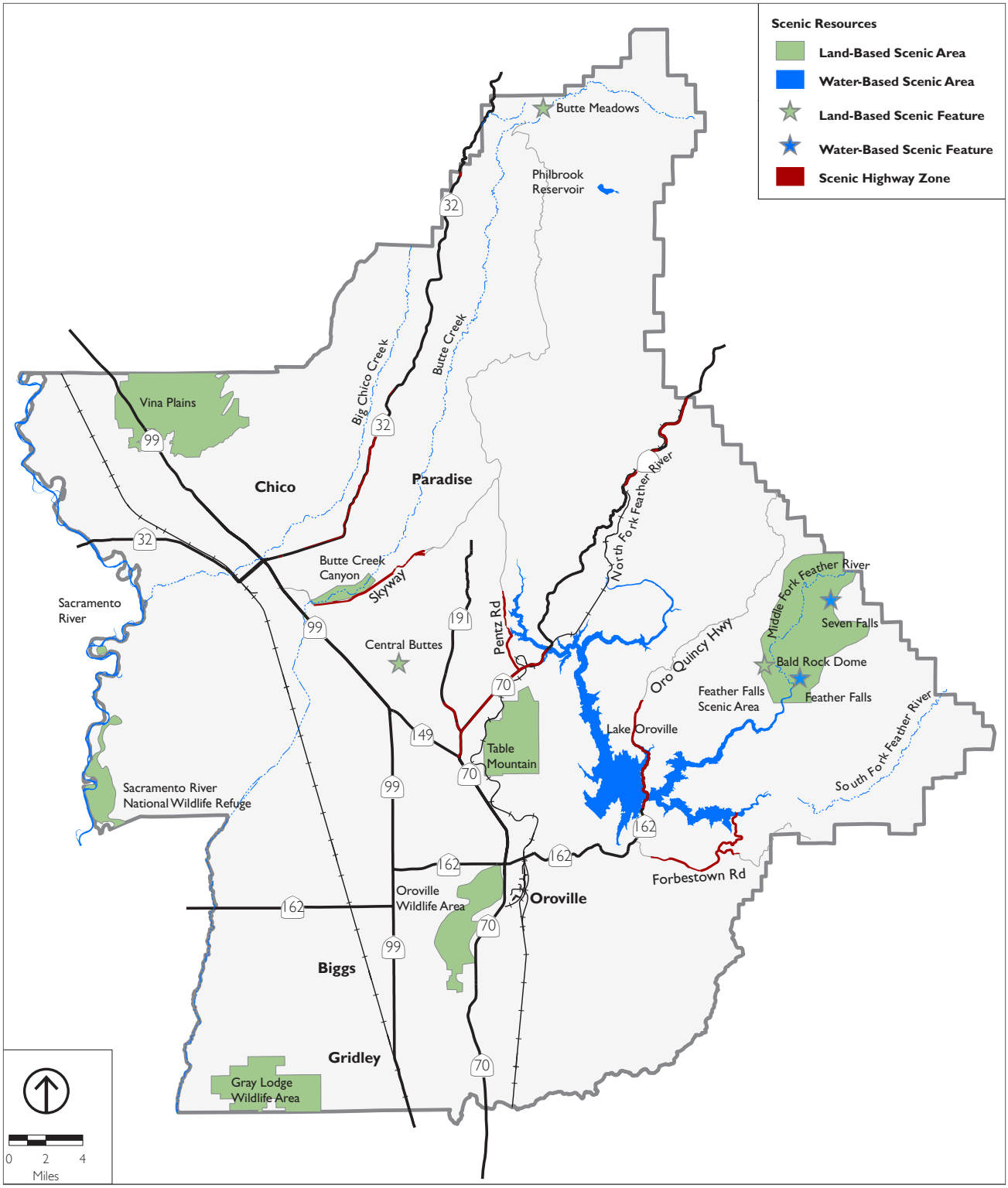
Butte County has an abundance of water resources that contribute to the county's visual character. These include both linear waterways and surface water bodies. While some of these resources are included among those described in the Natural Scenic Resources Section, this section provides additional information on those and other important scenic water resources in the county.

Rivers, Streams, and Creeks

Butte County is part of the Sacramento River watershed and is bounded by the Sacramento River on its west side. Numerous streams and rivers drain runoff from the Sierra Nevada and Cascade Mountains southwesterly across the county into the Sacramento River. Of these waterways, the most significant are Butte Creek; Big Chico Creek; and the North, Middle, and South Forks of the Feather River. These rivers pass through rugged terrain, which often obstructs visual access to the water. Nevertheless, they are significant visual features within the county. A 77.6-mile portion of the Middle Fork of the Feather River has federal Wild and Scenic River status (NWSRS 2021).

Surface Water Bodies

Also, significant as visual features are Butte County's lakes and reservoirs. Few natural lakes exist in the county, although numerous reservoirs have been built to provide domestic and irrigation water, hydroelectric power, recreation, flood control, and watershed management. The most visually significant of the county's water bodies are Lake Oroville, which covers over 15,500 surface acres and has 167 miles of shoreline, along with Thermalito Forebay and Afterbay. Other important reservoirs in the county include Concow Reservoir, Paradise Lake, Magalia Reservoir, Philbrook Lake, Lake Madrone, Ponderosa Reservoir, and Lake Wyandotte. Figure 5.10-4, *Surface Water Features,* in Section 5.10, *Hydrology and Water Resources,* maps the locations of these water bodies.



Source: PlaceWorks, Butte County General Plan 2030 Setting & Trends Report, 2007.
Butte County Geographic Information Systems; US Forest Service.

Figure 5.1-1
Scenic Resources

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Scenic Highways

This section describes various scenic highways and corridors, which are considered so either by virtue of their official designation by the State, through their identification as a County Scenic Highway in the General Plan 2030 Conservation and Open Space Element, or through application of the Scenic Highway (-SH) Overlay Zone.

Some of the scenic highways and corridors in Butte County traverse State-owned lands, where development poses little threat to the viewshed. Others pass through areas that are privately held, such as portions of the following: Forbestown Road east of Lake Oroville above 2,000-foot elevation; Highway 162 on the south side of Lake Oroville and north of the North Fork of the Feather River; Highway 70 north of Oroville and west/north of Table Mountain; and Highway 149 south of the Central Buttes and west of Table Mountain.

State Scenic Highways

Although there are no officially designated State Scenic Highways in Butte County, Highway 149 near Highway 70, and Wicks Corner is considered an eligible State Scenic Highway.

County Scenic Highways and Corridors

The General Plan 2030 Conservation and Open Space Element recognizes Highway 70 north of the Highway 149 intersection and a portion of Highway 32 south of Forest Ranch as county scenic highways.

Scenic Highway (-SH) Zoning

The Butte County Zoning Ordinance uses the Scenic Highway Overlay Zone (-SH) to establish standards to preserve the natural aesthetic qualities of areas visible from roadways designated as scenic highways by the State of California or the Butte County Board of Supervisors. Roads subject to the -SH overlay zone are illustrated on Figure 5.1-1. As shown on the figure, these include portions of Highway 32 north of Chico; Highway 70 north of the Highway 149 intersection; the Skyway with its expansive views of the Northern Sacramento Valley and Coast Range; the southern portions of Highway 191 and Pentz Road; the portion of Highway 162 along Lake Oroville; Forbestown Road; and Lumpkin Road.

The -SH Overlay Zone allows the same permitted and conditionally permitted uses as the base zone, subject to the requirements of the Overlay Zone, including development standards and findings for approval. Development within the -SH Overlay Zone is intended to feature high-quality architectural design, preserve views from the highway, and maintain existing topographic features on the site. When approving a development within the -SH Overlay Zone, the review authority considers the architectural design of the proposed structures and how the project will maintain existing views of scenic resources as viewed from the public right-of-way. The review authority also considers how the site will be graded to preserve natural features on the site and whether the landscaping associated with the project complements the scenic qualities of the site and surrounding areas.

Light and Glare

Light pollution refers to all forms of unwanted light in the night sky, including glare, light trespass, sky glow, and overlighting. Views of the night sky are an important part of the natural environment and are particularly important for a rural to semi-rural area, such as Butte County. Excessive light and glare can also be visually disruptive to humans and nocturnal animal species, and often indicate an unnecessarily high level of energy consumption. Current sources of light in Butte County include exterior lighting on residential and commercial buildings, streetlights, and billboards and other signage.

Current occurrences of glare are a result of the sun or street lighting reflecting off of large expanses of concrete or other light-colored surfaces, such as parking lots, wide streets, and warehouse rooftops. Glass and other reflective surfaces on buildings can also be a source of glare.

5.1.2 STANDARDS OF SIGNIFICANCE

The proposed project would result in a significant aesthetic impact if it would:

1. Have a substantial adverse effect on a scenic vista.
2. Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway.
3. Substantially degrade the existing visual character or quality of public views of the site and its surroundings. (Public views of the site are those that are experienced from a 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?
4. Create a new source of substantial light or glare that would adversely affect day or nighttime views in the area.
5. In combination with past, present, and reasonably foreseeable projects, result in cumulative impacts with respect to aesthetics.

5.1.3 PROPOSED GENERAL PLAN POLICIES

The following relevant policies and actions of the Butte County General Plan Update may reduce the potential impacts on aesthetics as a result of implementation of the proposed project.

Conservation and Open Space

- COS-P18.1: Views of Butte County's scenic resources, including water features, unique geologic features, and wildlife habitat areas, shall be maintained.
- COS-P18.2: Ridgeline development near scenic resources shall be limited via the adoption of specific development guidelines to minimize visual impacts.
- COS-A18.1: Adopt development guidelines that mitigate the impacts of ridgeline development near scenic resources.

- COS-P19.1: The County shall designate scenic corridors based on careful consideration of the following factors:
    a. Relationship to the scenic highway system, including proximity to urban population centers, gateways, integration with other highways and scenic highways and access to major recreation areas.
    b. Safety characteristics, including road surface and alignment, shoulder width, traffic levels, number of intersections, access points, turnouts, and rest areas.
    c. Scenic characteristics, including vista points, geologic resources, native plant and animal species, waterways, historic resources and agricultural, timber, and recreation uses.
    d. Government policies, including public lands, eligibility for State scenic highway designation, and consistency with other Butte County General Plan 2030 elements.
    e. Economic impacts on properties affected by a scenic highway designation.
- COS-P19.2: To enhance safety on scenic highways, the County shall limit access, using existing access where feasible, and limit encroachment permits.
- COS-P19.3: The County shall require utility companies to choose the least conspicuous locations for distribution lines, to avoid impacts to scenic corridors where there is reasonable choice.
- COS-A19.1: Review the scenic highways program, considering the potential designation of new scenic highways, removal of existing scenic highway designations, and modifications to the scenic highway standards.

Land Use

- LU-P2.3: The County shall support planning efforts in unincorporated communities by providing knowledge, time, and materials to community efforts.
- LU-P2.4: As resources become available, the County shall engage willing and interested unincorporated communities in community planning processes to set a community vision and develop Area Plans. Urban growth boundaries, community boundaries, and spheres of influence may be developed as part of such processes.
- LU-P4.1: The integrity and stability of existing residential neighborhoods shall be promoted and preserved.
- LU-P14.2: New urban development shall be primarily located in or immediately adjoining already urbanized areas.
- LU-P13.1: Maintain the Chico Area Greenline, which shall be located as shown on Figure LU-7.
- LU-P13.2: Should a dispute arise, or ambiguity appear as to the exact location of the Chico Area Greenline, apply the following rules in determining the exact location of such line:
    a. The Greenline is specific; large scale maps certified by the Development Services Director shall be consulted in the event of a dispute.

b. Where the Greenline is indicated as approximately following a street, alley, railroad right-of-way, creek or channel lines, the centerline of such street, alley, railroad right-of-way, creek or channel lines shall be construed to be the location of the Greenline.

c. Where the Greenline is indicated as approximately following a lot line, such lot line shall be construed to be the location of the Greenline.

d. With respect to property that is not subdivided, and where the Chico Area Greenline bisects a lot or parcel, the location of the Greenline, unless the same is indicated by dimensions shown upon the Official Chico Area Greenline Map, shall be determined by the use of the scale appearing on the Official Chico Area Greenline Map.

- LU-P13.3: Recognize the Chico Area Greenline as the boundary between the "Urban Side of the Chico Area Greenline" and the "Agricultural Side of the Chico Area Greenline."
- LU-P13.4: Allow residential land uses on the Agricultural Side of the Chico Area Greenline only within those areas designated for Very Low Density Residential and Rural Residential use on the Official Chico Area Greenline Map shown in Figure LU-7.
- LU-P13.5: Except as provided for in Policy LU-P13.4, require that all land use on the Agricultural Side of the Chico Area Greenline consist solely of agricultural land uses as provided by the "Agriculture" and "Agriculture Services" designations.
- LU-P13.6: Guide land uses on the Urban Side of the Chico Area Greenline by the policies of the Land Use Element and the applicable urban land use designation as contained in the Land Use Element.
- LU-P13.7: Conserve and protect for agricultural use the lands in the Chico area that are situated on the Agricultural Side of the Chico Area Greenline
- LU-P13.8: Accommodate future urban and suburban growth that occurs in the Chico area of Butte County on lands situated in the Urban Side of Chico Area Greenline.

5.1.4 IMPACT DISCUSSION

AES-1	The proposed project would not have a substantial adverse effect on a scenic vista.

General Plan 2040

Development allowed by the proposed project could occur within areas that would affect scenic vistas. In particular, development in valley and foothill areas that are visible parts of vistas from various vantage points within the County could adversely affect scenic vistas. The only land use changes associated considered with the proposed project are in the Upper Ridge Community Plan, as shown in Figure 3-4 proposed Upper Ridge Community Plan land use changes.

The proposed project includes goals and policies intended to protect scenic resources, direct new development to urbanized areas, and preserve agriculture and open spaces areas.

Conservation and Open Space Goal COS-18 is to maintain and enhance the quality of Butte County's scenic and visual resources. In support of this goal, Policy COS-P18.1 requires that views of Butte County's scenic resources, including water features, unique geologic features, and wildlife habitat areas, be maintained. Policy COS-P18.2 limits development along scenic ridgelines in Butte County for the purpose of protecting and enhancing the aesthetic qualities of ridgeline areas, and to preserve natural features that contribute to the county's scenic resources and unique sense of place.

The land use map in the General Plan 2040 Land Use Element, as well as its supporting policies under Goal LU-1, conserve large areas for open space and agricultural uses and focus development within existing urbanized areas and unincorporated communities. Policy LU-P14.2 requires that new urban development be primarily located in or immediately adjoining already urbanized areas. In addition, Goal LU-13 and its supporting policies maintain the Chico Area Greenline, which acts as an urban growth boundary and limits urban development from extending westward from the Chico area. More detailed information about the preservation of open space and agricultural land in its existing character is provided in Section 5.2, *Agriculture and Forestry Resources*, of this environment impact report (EIR).

Together, these goals and policies would reduce potential scenic vista impacts from the proposed project to a less-than-significant level.

Level of Significance Before Mitigation: AES-1 would be less than significant.

Mitigation Measures

No mitigation measures are required.

Upper Ridge Community Plan

As discussed in Chapter 3, *Project Description*, the Upper Ridge Community Plan would increase development potential in the Upper Ridge community with 28 parcels redesignated from Retail and Office to Mixed-use land uses in the Old Magalia and Magalia Center neighborhoods.

The Upper Ridge Community Plan Area consists of open spaces, which serve as a scenic resource. Most notably would be Paradise Lake and Magalia Reservoirs (County of Butte 2022). The General Plan Update includes goals, policies, and actions in the Conservation and Open Space Element and Land Use Element, which would protect scenic resources. Specifically, Policy COS-P18.1 requires that views of Butte County's scenic resources, including water features, unique geologic features, and wildlife habitat areas, be maintained. As well as Policy LU-P14.2 requires that new urban development be primarily located in or immediately adjoining already urbanized areas.

Together, these goals and policies would reduce potential scenic vista impacts from the proposed project to a less-than-significant level.

Level of Significance Before Mitigation: AES-1 would be less than significant.

Mitigation Measures

No mitigation measures are required.

AES-2	The proposed project would not substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway.

General Plan 2040

There are no State-designated scenic highways in Butte County; however, a portion of Highway 70 is designated as an eligible scenic highway (Caltrans 2022). Highway 70 would be maintained as County-designated scenic highways under the General Plan Update.

Development under the General Plan Update could occur within areas that would affect County-designated scenic highways. The County's Municipal Code Section 24-42, Scenic Highway Overlay Zone, development within 350 linear feet of a scenic highway would be covered by development standards. Furthermore, the General Plan Update includes goals, policies, and actions that would preserve the views from scenic highways into the future.

In addition, Conservation and Open Space Element Goal COS-19 would protect and enhance scenic areas adjacent to and visible from highways for enjoyment by residents and visitors. This goal is supported by Policy COS-P19.1 and Action COS-A19.1, which instruct the County to review its scenic highways program and consider designating new scenic corridors based on a consideration of factors such as an area's scenic characteristics, including vista points, geologic resources, native plant and animal species, waterways, historic resources, agricultural, timber, and recreation uses. Furthermore, Policy COS-P19.3 requires utility companies to choose the least conspicuous locations for distribution lines, so as to avoid impacts to scenic corridors where there is reasonable choice.

Together, these goals and policies in the General Plan Update and the regulations in the County's Municipal Code would reduce potential scenic vista impacts from the proposed project to a less-than-significant level.

Level of Significance Before Mitigation: AES-2 would be less than significant.

Mitigation Measures

No mitigation measures are required.

Upper Ridge Community Plan

As discussed in Chapter 3, *Project Description*, the Upper Ridge Community Plan would increase development potential in the Upper Ridge community with 28 parcels redesignated from Retail and Office to Mixed-use land uses in the Old Magalia and Magalia Center neighborhoods.

According to the California Scenic Highway Mapping System, administered by Caltrans, there are no state-designated scenic highways within the Upper Ridge Community Plan (Caltrans 2022). The nearest designated state scenic highway is Highway 70, which is approximately seven miles east of the Upper Ridge Community Plan Area. Given the distance, varying topography, and existing development, implementation of the proposed project would not degrade views of Highway 70, and no impact would occur.

Level of Significance Before Mitigation: AES-2 would have no impact.

Mitigation Measures

No mitigation measures are required.

AES-3	The proposed project would not substantially degrade the existing visual character or quality of the site and its surroundings. The proposed project would alter but not conflict with applicable zoning and other regulations governing scenic quality.

General Plan 2040

Butte County's existing visual character comes from its varied topography, open space areas, waterbodies, and unique landforms, as well as the character of its agricultural uses and rural, suburban, and urban neighborhoods. Implementation of the General Plan Update would allow ongoing growth and redevelopment in Butte County's established community areas, as well as development in areas that are currently vacant and undeveloped.

There are two primary ways in which the General Plan Update could influence the future visual character and quality of Butte County. First, development on a significant amount of land that is currently undeveloped could result in a significant change to the visual character and quality of the County. The second way that the General Plan Update could affect the visual character and quality of Butte County is through a change in the form and appearance of new development within existing neighborhoods.

The General Plan Update includes a range of goals and policies that seek to direct growth into already-urbanized areas, support the visual qualities and character of the County, and achieve a balance between allowing new development and preserving Butte County's valued open spaces and scenic resources.

As discussed, Conservation and Open Space Goal COS-18 and its supporting policies work to maintain and enhance the quality of Butte County's scenic and visual resources. In addition, the land use map in the Land Use Element, its supporting policies under Goal LU-1, Policy LU-P 14.2, and Goal LU-13 and its supporting policies preserve large areas for open space and agricultural uses and focus development within existing urbanized areas and unincorporated communities.

Development under the General Plan Update would avoid significant impacts on the visual character of existing communities due to Policy LU-P4.1, which requires that the integrity and stability of existing residential neighborhoods be promoted and preserved. In addition, the Land Use Element supports community planning efforts that would preserve the character of these communities through Policy LU-

P2.3, which supports planning efforts in unincorporated communities by providing knowledge, time, and materials to community efforts, and Policy LU-P2.4, which engages unincorporated communities in community planning processes to set a community vision, develop Area Plans, and potentially urban growth boundaries, community boundaries, and spheres of influence (SOIs).

Upper Ridge Community Plan

As discussed in Chapter 3, *Project Description*, the Upper Ridge Community Plan would increase development potential in the Upper Ridge community with 28 parcels redesignated from Retail and Office to Mixed-use land uses in the Old Magalia and Magalia Center neighborhoods.

The Upper Ridge Community Plan Area is composed of eight distinct neighborhoods with open spaces within and adjacent to the neighborhoods. Each neighborhood in the Plan Area has a unique community character influenced by a variety of factors such as access points, geography, land uses, building types, development densities, and street characteristics. These eight neighborhoods include Old Magalia, Lower Pines, Central Skyway, Carnegie Colter, Coutlenc, Fire Haven, Steiffer, and De Sabla, Humbug, and Niemshew. Open Space and Recreation areas include Paradise Lake, Coutolenc Park, Magalia Reservoir, Lake De Sabla, Magalia Community Park, and Paradise Pines Property Owners Association (POA) recreation center. The residential zones proposed in the Upper Ridge Community would not substantially change the existing visual character in the Old Magalia and Magila Center currently contain some residential and commercial uses, the proposed plan would increase residential areas.

The General Plan Update includes goals, policies, and actions in the Conservation and Open Space Element and Land Use Element, which would protect the existing visual character when introducing new development. Conservation and Open Space Goal COS-18 and its supporting policies work to maintain and enhance the quality of Butte County's scenic and visual resources. Specifically, Policy COS-P18.1 states views of Butte County's scenic resources, including water features, unique geologic features, and wildlife habitat areas, shall be maintained. In addition, Policy LU-P4.1 ensures the integrity and stability of existing residential neighborhoods shall be promoted and preserved.

Together, these goals and policies set a framework that would balance open space preservation with new development allowed under the General Plan Update and would ensure that new development preserves the visual character and quality of Butte County. The impact to visual character and quality would therefore be less than significant.

Level of Significance Before Mitigation: AES-3 would be less than significant.

Mitigation Measures

No mitigation measures are required.

AES-4	The proposed project would not create a new source of substantial light or glare that would adversely affect day or nighttime views in the area.

General Plan 2040

Development under the General Plan Update could increase the amount of light and glare through the installation of exterior lighting on new residential and commercial development. However, the Butte County Building Code and Zoning Ordinance regulate light power and brightness, shielding, and sensor controls, and require light fixtures to be designed and sited so as to minimize light pollution, glare, and light trespass into adjoining properties.

Upper Ridge Community Plan

As discussed in Chapter 3, *Project Description*, the Upper Ridge Community Plan would increase development potential in the Upper Ridge community with 28 parcels redesignated from Retail and Office to Mixed-use land uses in the Old Magalia and Magalia Center neighborhoods.

The redesignation of the 28 parcels would not substantially increase sources of light of glare as the current designations are retail and office already produce light and glare. Due to the existence of light and glare from the existing commercial and office uses of the parcels, and the commercial and residential uses surrounding the project site, the Upper Ridge Community Plan would not significantly add to the creation of nighttime light and glare. Moreover, Butte's Municipal Code, Section 24-64, New development, sets requirements for new development regarding outdoor lighting. Section 24-66, Compliance with lighting standards, sets light fixture requirements in buildings.

Therefore, the General Plan Update would have a less-than-significant impact related to light and glare.

Level of Significance Before Mitigation: AES-4 would be less than significant.

Mitigation Measures

No mitigation measures are required.

5.1.5 CUMULATIVE IMPACTS

AES-5	The proposed project, in combination with past, present, and reasonably foreseeable projects, would not result in less-than-significant cumulative impacts with respect to aesthetics.

General Plan 2040 and Upper Ridge Community Plan

The General Plan Update could result in changes to the visual character and quality of Butte County through development of undeveloped areas and/or changes to the character of existing communities. However,

goals, policies, and actions in the proposed General Plan Update, combined with other State and local regulations, would reduce project-level aesthetic impacts to a less-than-significant level.

When combined with the overall growth trends within Butte County and adjacent counties, the conversion of the region's visual quality from a rural, agricultural character to a more urban feel could result in a cumulatively significant aesthetic impact. However, within the timeframe of the General Plan Update, it is unlikely that the Butte County region would be significantly converted from agricultural land and open space to urban uses. Furthermore, the other counties in the Butte County region, where conversion from open space and agricultural land to urban uses is of most concern, have adopted General Plan policies that direct growth to existing urbanized areas and/or protect agricultural land. For instance, Yuba County's 2030 General Plan includes Goal NR3, which calls for the preservation of agricultural operations.

In addition to local policies to avoid urbanization of open space and agricultural lands, State, and local scenic highway programs would mitigate potential impacts along scenic corridors by preserving views and open space land.

Light pollution has the potential to become an issue of increasing concern in the region as new development contributes additional outdoor lighting installed for safety and other reasons. Butte County may be adversely affected not only by light pollution from development within the unincorporated area, but also from sky glow associated with the ongoing urbanization of cities within Butte County and in surrounding areas, such as Yuba City. However, future development in all jurisdictions will be subject to the California Building Code standards that would prevent potential impacts associated with light and glare.

Overall, the cumulative aesthetic impact would be less than significant.

Level of Significance Before Mitigation: AES-5 would be less than significant.

Mitigation Measures

No mitigation measures are required.

5.1.6 REFERENCES

Butte, County of. 2022. *Butte County Upper Ridge Community Plan*. https://www.buttecounty.net/Portals/10/Planning/Upper%20Ridge%20Community%20Plan/URCP_Final_Plan_2-17-2022_Optimized.pdf?ver=2022-02-18-084825-757.

California Department of Transportation (Caltrans). 2022. California State Scenic Highway System Map. https://caltrans.maps.arcgis.com/apps/webappviewer/index.html?id=465dfd3d807c46cc8e8057116f1aacaa.

National Wild and Scenic Rivers System (NWSRS). 2021, November 5 (accessed). Feather River (Middle Fork), California. https://www.rivers.gov/rivers/feather.php.

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5.2 AGRICULTURE AND FORESTRY RESOURCES

This chapter describes the regulatory framework and existing conditions in the Plan Area related to agriculture and forestry resources, and the potential impacts of the project on agriculture and forestry resources.

5.2.1 ENVIRONMENTAL SETTING

5.2.1.1 REGULATORY FRAMEWORK

This section describes several State and local policies that Butte County has adopted to enhance and preserve agriculture as a resource in Butte County.

Federal Regulations

United States Forest Service Plans

The United States Forest Service is a major landowner in Butte County. Its holdings total 135,427 acres in the county, including portions of Plumas National Forest and Lassen National Forest, which are displayed in Figure 5.11-1, *Federal and State Lands,* in Section 5.11, *Land Use and Planning*. The Forest Service's Land and Resource Management Plans for Plumas National Forest (1988) and for Lassen National Forest (1993, as amended) guide all Forest Service activities on these lands.

Bureau of Land Management

The United States Bureau of Land Management (BLM) owns 16,832 acres in Butte County, consisting of scattered foothill lands, displayed in Figure 5.11-1 (DOI 2022). BLM completed a draft Resource Management Plan (RMP) in 1990, and the final Record of Decision was completed in June 1993. The BLM Redding Field Office is currently in the process of developing a new RMP, called the *Northwest California Integrated Resource Management Plan*, which, when completed, would replace the existing 1993 Redding RMP (BLM 2017).

The existing RMP is a 15-year strategy on where and how BLM will administer public lands within the Redding Resource area, which includes Butte County. The RMP has allowed for shifts in BLM public land ownership patterns of scattered parcels to combine into larger aggregates of accessible and useful public lands. The majority of land sales, exchanges, and interjurisdictional transfers between other agencies and organizations have taken place in Tehama and Trinity Counties. The goal of the RMP is to ensure that land sales, exchanges, and transfers meet the BLM's long-term objectives for land preservation.

State Regulations

Farmland Mapping and Monitoring Program

Within the California Natural Resources Agency, the State Department of Conservation provides services and information that promote informed land-use decisions and sound management of the State's natural

resources. The Department manages the Farmland Mapping and Monitoring Program (FMMP), which supports agriculture throughout California by developing maps and statistical data for analyzing land use impacts to farmland. Every two years, the FMMP publishes a report for each county in California in which agricultural land is rated on its production potential according to the following classifications (CDC 2021a):

- Prime Farmland has the best combination of physical and chemical features able to sustain long-term agricultural production. Prime Farmland has the soil quality, growing season and moisture supply needed to produce sustained high yields. Land must have been used for irrigated agriculture production at some time during the four years prior to the mapping date.
- Farmland of Statewide Importance is similar to Prime Farmland, but with minor shortcomings, such as steeper slopes or less ability to store soil moisture. Land must have been used for irrigated agricultural production at some time during the four years prior to the mapping date.
- Unique Farmland consists 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 farmed at some time during the four years prior to the mapping date.
- Grazing Land is the land on which the existing vegetation is suited to the grazing of livestock.
- Urban and Built-Up Land is 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. Common examples include residential, industrial, commercial, institutional facilities, cemeteries, airports, golf courses, sanitary landfills, sewage treatment, and water control structures.
- Other Land is land not included in any other mapping category. Common examples include low-density rural developments, brush, timber, wetlands, riparian areas not suitable for livestock grazing, confined livestock, poultry, aquaculture facilities, and strip mines. Vacant and nonagricultural land surrounded on all sides by urban development and greater than 40 acres is mapped as Other Land.
- Water is used to describe perennial water bodies with an extent of at least 40 acres.

Williamson Act

The California Land Conservation Act of 1965, better known as the Williamson Act, conserves agricultural and open space lands through property tax incentives and voluntary restrictive land use contracts administered by local governments under State regulations. Private landowners voluntarily restrict their land to agricultural and compatible open space uses under minimum 10-year rolling term contracts, with counties and cities also acting voluntarily. In return, restricted parcels are assessed for property tax purposes at a rate consistent with their actual use, rather than potential market value. Nonrenewal status is applied to Williamson Act contracts that are within the nine-year termination process, during which the annual tax assessment for the property gradually increases.

Public Resources Code Section 12220(g)

This section of the Public Resources Code defines "forest land" for the purposes of CEQA. According to the Public Resources Code Section 12220(g), "forest land" is land that can support 10 percent native tree cover of any species, including hardwoods, under natural conditions, and allows for management of one or more forest resources, including timber, aesthetics, fish and wildlife, biodiversity, water quality, recreation, and other public benefits.

Government Code Section 51104

This section of the Government Code defines "Timber," "Timberland," and "Timberland Production Zone" for the purposes of CEQA and "Timberland Preserve Zone," which may be used in city and county general plans.

- Timber means trees of any species maintained for eventual harvest for forest production purposes, whether planted or of natural growth, standing or down, on privately or publicly owned land, including Christmas trees, but does not mean nursery stock.
- Timberland means privately owned land, or land acquired for State Forest purposes, which is devoted to and used for growing and harvesting timber, or for growing and harvesting timber and compatible uses, and which is capable of growing an average annual volume of wood fiber of at least 15 cubic feet per acre.
- Timberland Production Zone or "TPZ" means an area that has been zoned pursuant to Section Government Code Section 51112 or 51113 and is devoted to and used for growing and harvesting timber, or for growing and harvesting timber and compatible uses, as defined in Government Code Section 51104(h). With respect to the general plans of cities and counties, "Timberland Preserve Zone" means "Timberland Production Zone."

Open Space Lands Act (Government Code Section 65560 et. seq.)

California Government Code Section 65560 establishes the importance of preserving open space, including "for the assurance of the continued availability of land for the production of food and fiber," and the responsibility of all cities and counties to plan for the preservation of open space. This section of the Government Code requires all cities and counties to prepare an Open Space Element of the local general plan, which must cover the following six types of open space:

- Open space for the preservation of natural resources.
- Open space used for the managed production of resources, including but not limited to, forest lands, rangeland, agricultural lands, and groundwater recharge areas.
- Open space for outdoor recreation, including areas of outstanding scenic, historic, and cultural value.
- Open space for public health and safety, including, but not limited to, earthquake fault zones, unstable soil areas, floodplains, watersheds, and high fire risk areas.
- Open space in support of the mission of military installations.

- Open space for the protection of places, features, and objects significant to Native American tribes.

Local Regulations

Butte County General Plan 2030

The following policies are included in the existing General Plan regarding agriculture and forestry resources. The numbering is from the existing General Plan and therefore may not be consecutive.

Land Use Element

- Goal LU-1 Continue to uphold and respect the planning principles on which the County's land use map is based.
    - LU-P1.1 The County shall protect and conserve land that is used for agricultural purposes, including cropland and grazing land.
    - LU-P1.3 The County shall minimize potential conflicts between agricultural and urban uses.
    - LU-P1.4 The County shall support agriculture by allowing agricultural services in agricultural areas.
    - LU-P1.5 The County shall conserve timber resources.
- Goal LU-9 Coordinate land development with provision of new services and infrastructure.
    - LU-P9.3 The County shall work cooperatively with the Local Agency Formation Commission (LAFCO), municipalities and all irrigation districts if annexation of agricultural areas is proposed for urban development to ensure the integrity of irrigation structures that serve off-site landowners.
- Goal LU-13 Plan for growth and protect agriculture in the Chico area through the Chico Area Greenline.
    - LU-P13.3 Recognize the Chico Area Greenline as the boundary between the "Urban Side of the Chico Area Greenline" and the "Agricultural Side of the Chico Area Greenline."
    - LU-P13.5 Except as provided for in Policy LU-P13.4, require that all land use on the Agricultural Side of the Chico Area Greenline consist solely of agricultural land uses as provided by the "Agriculture" and "Agriculture Services" designations.
    - LU-P13.7 Conserve and protect for agricultural use the lands in the Chico area that are situated on the Agricultural Side of the Chico Area Greenline.

Economic Development Element

- Goal ED-2 Promote and support the local agricultural economic sector.
    - ED-P2.1 The County shall create and support opportunities to promote and market agricultural products grown or processed within Butte County (such as a Farmers' Market).
    - ED-P2.2 The County shall encourage development of food processing and other facilities that could support production of "value-added" agriculture products from Butte County.
    - ED-P2.3 The County shall promote agritourism, such as through special events and themed "farm trails" and routes within Butte County's agricultural areas.
    - ED-P2.4 The County will support a Community Supported Agriculture (CSA) program if one is developed.
    - ED-P2.5 The County supports existing grower cooperatives in Butte County.
    - ED-P2.6 The County supports programs and projects that would help Butte County farmers provide carbon offsets, if and when new regulations require industries to provide carbon offsets.
    - ED-P2.7 The County supports programs and projects that utilize agricultural by-products for "green" building material production and/or renewable energy production, such as using straw bales for building or converting rice straw to bio-fuels.

Agriculture Element

- Goal AG-1 Protect, maintain, promote and enhance Butte County's agriculture uses and resources, a major source of food, employment and income in Butte County.
    - AG-P1.1 The County supports State and federal legislation designed to conserve soil and protect agricultural land.
    - AG-P1.2 The County supports agricultural education and research at Butte County educational institutions.
    - AG-P1.3 Continue to work with landowners in establishing new and maintaining existing Williamson Act contracts.
- Goal AG-2 Protect Butte County's agricultural lands from conversion to non-agricultural uses.
    - AG-P2.1 The County shall work with the Local Agency Formation Commission (LAFCO) to create and maintain a consistent approach to the conservation of agricultural land through the designation of reasonable and logical Sphere of Influence (SOI) boundaries.
    - AG-P2.2 The County supports private conservation organizations that utilize voluntary conservation easements as a tool for agricultural conservation, continued agricultural use, agricultural supportive uses, tax breaks and similar goals.

- AG-P2.3 Redesignation and rezoning of land designated as Agriculture to an urban designation shall be allowed only when the applicant can demonstrate that the following criteria are met and mitigated:
    a. The lot(s) for which conversion is requested is adjacent to uses other than agriculture or agricultural support uses (e.g. receiving plants, hulling plants).
    b. The conversion will not be detrimental to existing agricultural operations.
    c. The conversion land is adjacent to existing urban infrastructure and conversion will constitute a logical contiguous extension of a designated urban area.
    d. No feasible alternative exists that is less detrimental to agriculture.
    e. Full mitigation of impacts to the extent allowed under the law is provided, including, but not limited to, roads, drainage, schools, fire protection, law enforcement, recreation, sewage and lighting.
- AG-P2.4 As set forth in the Zoning Ordinance, rezoning agricultural land to agricultural zones with lower parcel size restrictions shall be minimized and allowed only if specific criteria are met.
- AG-P2.5 When a request is made for a Conditional Use Permit on a lot(s) with existing agricultural operations, an agricultural maintenance plan to provide for the continuation of existing agricultural activities shall be submitted, in accordance with the Zoning Ordinance. The plan shall be reviewed for comments and conditions by the Agricultural Commissioner and Development Services prior to the Planning Commission hearing on the Conditional Use Permit.
- AG-P2.6 The County shall retain and protect agricultural lands through the use of proactive land use techniques, including, but not limited to, the following:
    a. Clustered development projects, allowing a "clustering" of permitted densities in a compact configuration in order to protect agricultural land.
    b. Density bonuses, permitting increased density on developable land in exchange for protection of agricultural land.

- Goal AG-3 Promote innovative and economically viable agriculture.
    - AG-P3.1 The County shall use the existing local working group process to cooperate with the Natural Resource Conservation Service to provide support to farmers regarding conserving water, planting drought-tolerant crops and protecting natural resources.
    - AG-P3.2 The County supports existing efforts, such as those by the U.C. Cooperative Extension, to educate and encourage farmers to use agricultural methods that reduce or minimize use of pesticides, herbicides and manufactured fertilizers.
- Goal AG-4 Promote niche and specialty agriculture.
    - AG-P4.1 The County recognizes and supports the role of small farms growing specialty products in Butte County.

- AG-P4.2 The County shall provide education and outreach to support farmers in diversifying their products.
- AG-P4.3 The County shall facilitate the establishment of specialty farming areas that grow high value crops, such as organic and heirloom products and fruits, nuts and vegetables.
- AG-P4.4 The County shall encourage the establishment of small-scale agriculture uses such as specialty crops, organic farming, specialized animal facilities and agricultural research operations on small parcels of land in existing agricultural areas.
- AG-P4.5 The Unique Agriculture Overlay land use and zoning designation shall be applied to areas where farm stays, education and local retail sales are appropriate in order to support agritourism.
- AG-P4.6 The Unique Agriculture Overlay shall be approved where it can be demonstrated that an area has unique agricultural, historic and cultural significance to Butte County.
- AG-P4.7 Limited visitor-serving commercial uses, such as wineries and specialty produce markets, shall be allowed in agricultural areas with approval of a Use Permit, to ensure continued agricultural use and compatibility with surrounding uses.
- AG-P4.8 Uses that are designed to support on-site agricultural pursuits, such as direct product sales, processing, farm-based tourism, quasi-agricultural operations and agricultural research, shall be allowed on land designated for Agriculture, subject to the design review and development standards contained in the Zoning Ordinance. Such uses shall meet the following criteria:
    a. The use will not require the extension of sewer or water.
    b. The use does not substantially detract from agricultural production on-site or in the area.
    c. The use does not create a concentration of commercial uses in the immediate area.
    d. The use is compatible with and does not adversely impact surrounding land uses.
    e. The use provides for adequate traffic circulation.

- Goal AG-5 Reduce conflicts between urban and agricultural uses and between habitat mitigation banking and agricultural uses.
    - AG-P5.1 Agricultural uses shall be the primary uses within the Agriculture land use designation. Residential uses, such as a farmer's home, and habitat mitigation banking uses shall be considered accessory uses.
    - AG-P5.2 Urban development and habitat mitigation banking uses shall not limit the financial sustainability of agricultural operations.

- AG-P5.3 The Zoning Ordinance shall require that a buffer be established on property proposed for residential development in order to protect lands designated Agriculture by the General Plan and zoned Agriculture under the Zoning Ordinance from incompatible use conflicts. The desired standard shall be 300 feet but may be adjusted to address unusual circumstances. This buffer requirement does not apply to projects or between projects within the interior of the Butte LAFCO-adopted Biggs/Gridley Area of Concern, which are within the Spheres of Influence for the Cities of Biggs and Gridley but will be required on projects that create the ultimate exterior boundary of the Area of Concern along said exterior boundary.
- AG-P5.3.1 The Zoning Ordinance shall allow animal grazing and crop cultivation, as defined under the Zoning Ordinance, as an interim use in Residential, Commercial and Industrial zones on parcels of 1-acre or larger in size. The Butte County Right-to-Farm Ordinance (Butte County Code Chapter 35) shall continue to recognize that, while not exclusively devoted to agriculture, Residential, Commercial and Industrial zones may support animal grazing and crop cultivation as an interim use prior to development.
- AG-P5.3.2 The Zoning Ordinance shall require a setback between a new residence and an existing active orchard or vineyard that locates the residence as far away from the orchard or vineyard as practicable, taking into account adjacent agricultural uses and practices, provided it does not limit the density permitted by the residential zone, and in no case is less than 25 feet. This setback shall be imposed on the parcel developing with residences and shall be reviewed by the Zoning Administrator in consultation with the Agricultural Commissioner as to width. The setback shall be subject to a public hearing.
- AG-P5.3.3 The Zoning Ordinance shall require that a buffer be established pursuant to Policy AG-P5.3 on property proposed for residential development requiring discretionary approval in order to protect existing Williamson Act contracts (i.e. those contracts that are in effect at the time of adoption of this policy) from incompatible use conflicts. The desired standard shall be 300 feet, but may be adjusted to address unusual circumstances. The desired standard shall be 300 feet but may be adjusted to address unusual circumstances. This buffer requirement does not apply to projects or between projects within the interior of the Butte LAFCO-adopted Biggs/Gridley Area of Concern, which are within the Spheres of Influence for the Cities of Biggs and Gridley but will be required on projects that create the ultimate exterior boundary of the Area of Concern along said exterior boundary.
- AG-P5.4 Land divisions that separate a farmer's home or an agricultural processing facility from the agricultural land shall be prohibited, unless the lot split meets the minimum lot size requirement of the zoning district.
- AG-P5.5 To protect agricultural areas from flooding, all urban/residential development projects shall provide a drainage plan prepared by a registered civil engineer that, at a minimum, addresses:

    a. Pre-development drainage conditions for the development site, including peak runoff rates and runoff volumes.

b. Post-development drainage conditions, including changes in peak runoff rates and runoff volumes.

c. Off-site drainage or flooding impacts and proposed or recommended mitigation measures.

d. Mechanisms for maintenance of drainage facilities.

- Goal AG-6 Provide adequate infrastructure and services to support agriculture.
  - AG-P6.1 The County supports the efforts of private landowners and public agencies to protect farmers from catastrophic and uncontrolled flooding of permanent crops, such as orchards, nurseries and other major agricultural investments.
  - AG-P6.2 The County shall work with water agencies and irrigation districts to improve the distribution of water for agricultural uses.
  - AG-P6.3 The County supports the provision of transportation infrastructure to transport agricultural goods to markets and ports.
- Goal AG-7 Support farmworker and farm family housing in agricultural areas.
  - AG-P7.1 Temporary housing for seasonal workers, including temporary sanitary and cooking facilities, shall be allowed during harvest season subject to applicable building and health codes.

Circulation Element

- Goal CIR-6 Support a balanced and integrated road and highway network that maximizes the mobility of people and goods in a safe, efficient manner.
  - CIR-P6.3 Project approval shall be conditioned on the provision of roadway improvements to meet the level of service standards in policies CIR-P6.1 and CIR-P6.2. Exceptions to satisfying the level of service standards and/or constructing transportation facilities to the County's design standards may be allowed on a case-by-case basis where reducing level of service or not constructing a transportation facility to County standards would result in a clear public benefit. Such circumstances may include, but are not limited to the following:

    a. Conserving agricultural or open space land.

    b. Enhancing the agricultural economy.

    c. Protecting scenic roadways or highways.

    d. Preserving downtown community environments.

Water Resources Element

- Goal W-4 Promote water conservation as an important part of a long-term and sustainable water supply.
  - W-P4.1 Agricultural and urban water use efficiency shall be promoted.

- W-P4.2 Water conservation efforts of local Resource Conservation Districts, the Natural Resource Conservation Service and irrigation districts should be coordinated.
- W-P4.3 The County shall work with municipal and industrial water purveyors to implement water conservation policies and measures.
- W-P4.4 Opportunities to recover and utilize wastewater for beneficial purposes shall be promoted and encouraged.
- W-P4.5 The use of reclaimed wastewater for non-potable uses shall be encouraged, as well as dual plumbing that allows graywater from showers, sinks and washers to be reused for landscape irrigation in new developments.
- W-P4.6 New development projects shall adopt best management practices for water use efficiency and demonstrate specific water conservation measures.*
- W-P4.7 County facilities shall adopt water conservation measures and when appropriate retrofit existing facilities to improve water conservation.

Conservation and Open Space Element

- Goal COS-11 Protect timber resources and promote sustainable timber production.
  - COS-P11.1 The County supports and promotes sustainable timber production.
  - COS-P11.2 The County shall support and cooperate with CAL FIRE in its responsibilities related to timber and forest practice laws.
  - COS-P11.3 Urban development shall not limit the financial sustainability of timber operations.
  - COS-P11.4 Residential uses on or adjacent to parcels zoned Timber Production shall not be allowed to negatively impact continued timber harvesting operations.
  - COS-P11.5 Lot line adjustments shall be allowed on substandard Timber Production Zone parcels in order to consolidate logical timberland management units or to accommodate a valid public interest as determined by Butte County.
  - COS-P11.6 Public facilities shall generally not be located in the Timber Production Zone if the facility would have a significant adverse effect on the production of timber, unless alternative sites for an essential public use cannot be located elsewhere.

Upper Ridge Community Plan

The following policies are included in the existing Upper Ridge Community Plan regarding agriculture and forestry resources. The numbering is from the plan and therefore may not be consecutive.

Hazard Risk Reduction Strategies - Forestry and Ecological Pests and Diseases

- Strategy HS-1.8: Support the development of a facility on or near the Upper Ridge that can store and process bark beetle-infested wood and debris from forest fuel-clearing activities into useful products.

- Strategy HS-1.9: Encourage local artists and craft persons to use wood harvested from bark-beetle infested trees and debris.
- Strategy HS-1.10: Work with Butte County Fire Safe Council to develop a cost-sharing program, such as Hazards Fuels Reduction Program, that provides financial assistance to private property owners to trim or remove dead or diseased trees within 100 feet of structures, including assistance for disposal of material.

Butte County Right-to-Farm Ordinance

Chapter 35, Right to Farm, of the Butte County Municipal Code, also referred to as the Butte County Right-to-Farm Ordinance, serves as a notification to owners, purchasers, residents, and users of property adjacent to agricultural operations of potential issues at the agriculture-urban interface. The Right-to-Farm Ordinance declares that properly conducted agricultural operations on agricultural land are not subject to nuisance claims, assuming the operation was not already on record as a nuisance when the operation began. Information about the Right-to-Farm Ordinance is provided by the County to residents with an annual tax bill and when an application is submitted for development on or adjacent to agricultural land.

Agricultural Buffers Setback Ordinance

Section 24-83, Agricultural Buffer Setbacks, of the County's Municipal Code requires a 300-foot agricultural buffers for all new residential development in Butte County. This mandatory buffer is required for all residential projects on lands zoned Agriculture, other zones within 300 feet of the boundary of Agriculture zones, areas inside and within 300 feet of sphere of influence boundaries where the boundary abuts parcels zoned Agriculture, and areas within 300 feet of a Williamson Act contract. The program clearly establishes that it is the responsibility of the developer to create the buffer on the urbanized side of community boundaries or spheres of influence in the unincorporated areas of the county.

On April 22, 2021, the Board of Supervisors amended the Zoning Ordinance, Chapter 24, Article III, Division 7, Agricultural Buffers, and the Agricultural Buffer Implementation Guidelines (Resolution 08-166) by removing the exception allowance and unusual circumstance process for discretionary permit applications; and include the utilization of private road easements or dedicated right-of-way, and other undevelopable features in measuring the width of the 300-ft. Agricultural Buffer. The amendments are intended to protect Agricultural lands and uses from the negative effects of adjacent residential development (Butte County 2021a).

Agricultural Protection Zoning

The Butte County Zoning Ordinance defines the zoning regulations for the unincorporated areas of Butte County. The Zoning Ordinance identifies two specific zoning types that designate agriculture as a principal land use: agricultural (A) and agricultural services (AS) zones. The current ordinance was adopted in November 2012. For the purposes of this section, these two zoning types will be referred to as Agricultural Protection Zones (APZ).

APZ is generally established where environmental factors, such as soil conditions and water availability, are most amenable to farming. The soils in Butte County range from Class I to VIII, with Class I defined as "very good cultivable land." Butte County's agricultural protection zones are on the best soils in the western portion of the county. Soil classes on the west side of Butte County range from I to IV. High water availability in this region is supplied by the Sacramento River, which runs along the western boundary of the county. Because environmental conditions vary within Butte County, APZ allows for the most cultivable land to be reserved for agricultural purposes.

Urban Growth Boundaries

Urban growth boundaries (UGBs) create a clearly defined agricultural-rural interface and separate urbanized areas from non-urbanized areas by identifying the locations in which urbanization can occur. They are implemented to control outward expansion of development, encourage increased densities within the urban core, and establish protected greenbelts of agriculture or open space around the perimeter of an urban area.

The Greenline policy is outlined in the County's existing Land Use Element. The Greenline is at Chico's western city limit, dividing prime agricultural farmlands to the west of Chico from non-prime farmland in the east. It serves to restrict development on the prime farmlands west of Chico and preserves this area for agricultural production. As Chico grows, development is intended to be pushed east of the Greenline and onto non-prime farmlands.

The General Plan Update Agricultural Element includes goals and policies aimed at preventing the County's agricultural land from being converted to non-agricultural uses. The Greenline is subject to review by the Butte County Board of Supervisors every five years.

5.2.1.2 EXISTING CONDITIONS

This section describes agricultural land with respect to its physical conditions and the unique geography and environmental factors that contribute to high agricultural productivity in Butte County.

Agricultural Environment

Butte County is in the Sacramento Valley, a vast, flat floodplain that is particularly amenable to farming. Within the county, agriculture is the largest land use, with parcels of farmland spanning from east of the Sacramento River to the foothills of the Southern Cascade and Sierra Nevada ranges. The majority of Butte County farmland is aggregated in the northwest, in the central county, and in the southwest, away from the incorporated cities. The largest, continuous parcels of agricultural land are located where the environmental conditions are most favorable for farming.

The farming environment in Butte County is rich with high-quality soils. Its location in the floodplains of the Sacramento River provides fertile, alluvial sediment that is abundant with nutrients. The State authority on farmland classification is the FMMP, which is overseen by the California Division of Land and Resource Protection. The FMMP rates the quality of agricultural land according to soil ratings and land use. The most recently published FMMP survey of Butte County was updates in 2021 (CDC 2021b). The FMMP defines

land uses in Butte County by the following categories: Prime Farmland, Farmland of Statewide Importance, Unique Farmland, Farmland of Local Importance, Grazing Land, Urban and Built-up Land, Other Land, and Water Area. According to the *Butte County 2016-2018 Land Use Conversion Report*, there are 637,635 acres of land suited for agricultural use in Butte County (CDC 2018).

Most agricultural land in the county is designated as Grazing Land and Prime Farmland; those farmland types account for approximately 592,700 acres of land. Prime Farmland has the best chemical and physical features to support long-term agricultural production while Grazing Land is suited for grazing of livestock. Approximately 45,000 acres of agricultural land is designated as Unique Farmland and Farmland of Statewide Importance (CDC 2016). Unique Farmland includes land with lesser-quality soil and may include non-irrigated vineyards or orchards. Farmland of Statewide Importance is similar to Prime Farmland, except the land is on steeper slopes or in areas with less ability to retain soil moisture. Figure 5.2-1, *Agricultural Lands,* shows agricultural lands in Butte County, as mapped by FMMP in 2016.

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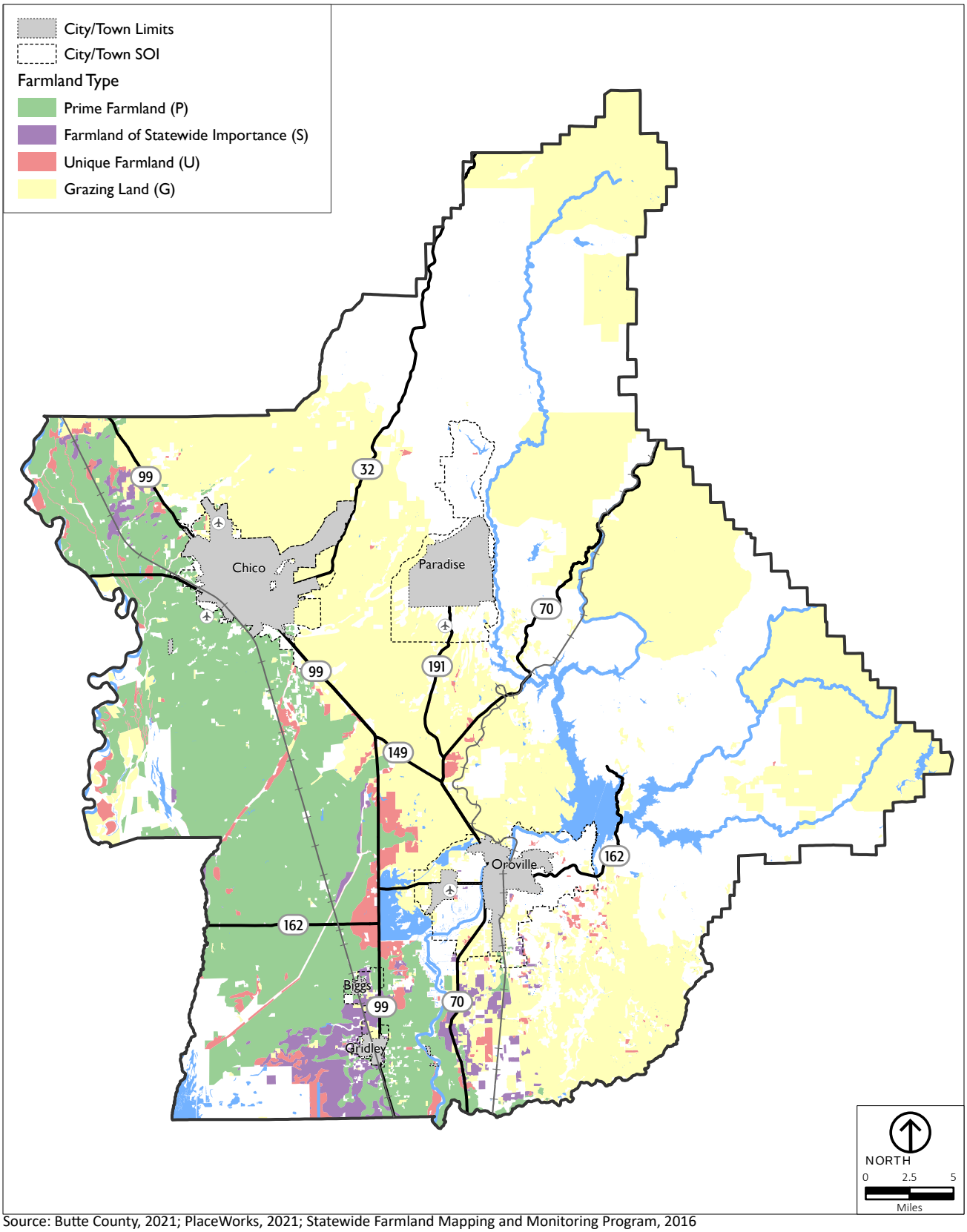

Source: Butte County, 2021; PlaceWorks, 2021; Statewide Farmland Mapping and Monitoring Program, 2016

Figure 5.2-1
Agricultural Lands

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Agricultural Land

A variety of crops can be grown in Butte County because of the temperate Mediterranean climate, including fruits and nuts, field, seed, and vegetable crops. Other agricultural goods, such as livestock, apiary, nursery plants, and timber are also produced in Butte County. The Office of the Agricultural Commissioner releases an annual summary report, the Crop Report, which provides statistics on land use and productivity for agriculture in Butte County (Butte County 2022b).

The three most land-intensive crops in the county are rice, almonds, and English walnuts. In 2021, about 21.6 percent of total agricultural acreage was in rice crop production, 13.5 percent produced English walnuts, and 9.4 percent was dedicated to almonds (Butte County 2022b). Of the overall crop types, field crops occupy the most land in the county, at approximately 293,139 acres. Fruit and nut crops occupy the second highest amount of land, at approximately 102,007 acres. In 2021, approximately 403,000 acres were dedicated to farming (Butte County 2022b). As shown in Table 5.2-1, *Summary of Plant Crop Acres for Butte County (2017-2021),* during the five-year span from 2017 to 2021, acres dedicated to farming decreased by approximately 14,000 acres experiencing a 3.36 percent change. During this time, the total harvested acreage decreased for field and vegetable crops and increased for seed crops and fruits and nuts. Timber harvests has increased, from 60 million board feet in 2020 to approximately 264 million board feet in 2021 (Butte County 2022b, 2021b). Including all crops, livestock, nursery stock, apiary products, and timber, the total gross value of agricultural production in Butte County was estimated at $609,955,303 in 2021.

TABLE 5.2-1 SUMMARY OF PLAN CROP ACRES FOR BUTTE COUNTY (2017-2021)

Crop Type	2017	2018	2019	2020	2021	Percent Change
Field Crops	309,483	253,644	31,0582	272,094	293,139	-5.28
Fruits and Nuts Crops	101,409	107,299	108,113	102,984	102,007	0.59
Seed Crops	5,492	5,533	6,144	6,557	7,338	33.61
Vegetable Crops	603	615	525	462	481	-20.23
Total	41,6987	36,7091	425,364	382,097	402,965	-3.36

Source: Butte County 2022b

Agricultural Economy

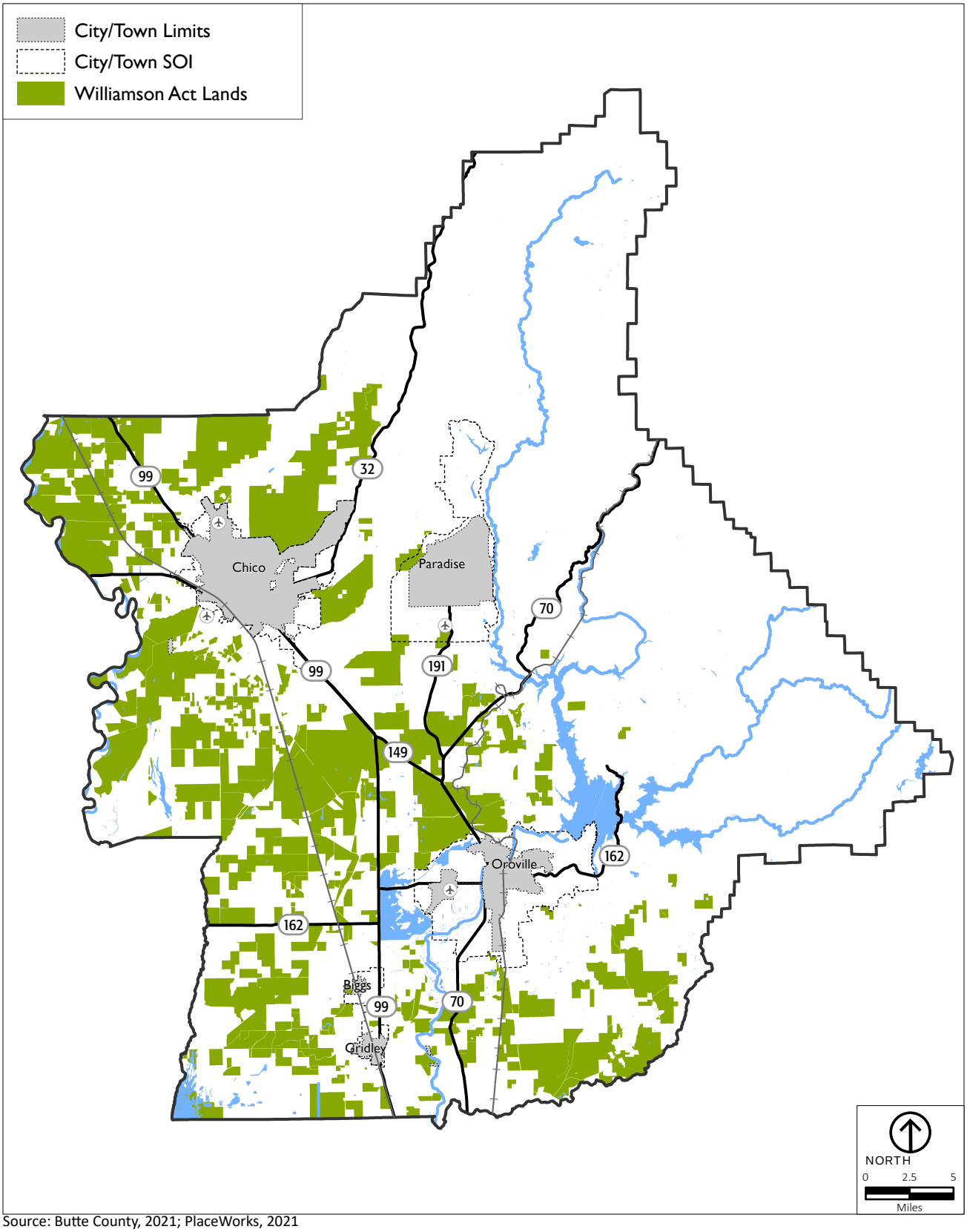
In 2021, the gross value of agricultural production was approximately $610 million which was below 2020 reported amount of $625 million. Butte County grew three crops that earned over 100 million dollars in 2021. The top three money-making crops were walnuts, rice, and almonds. The annual value for rice and almonds in Butte County has decreased since 2020, but the value of walnuts increased during that time. The gross value for walnuts in 2020 was over $128 million and, in 2021, the value for walnuts increased to approximately $140 million. Although the value of almonds has decreased since 2020, it is still the most valuable crop in Butte County, as of 2021 (Butte County 2022b; 2021b).

At the same time, agriculturalists are introducing innovative and new approaches for certain areas of the county, such as trellised olives for mechanized harvesting and niche crops, such as botanicals and organics.

Agriculturists, as part of a traditional industry, are looking for modern, innovative ways to reintroduce farming culture and recapture earnings. A trend in Butte County, and throughout the state, creates an industry around agricultural tourism. Agri-tourism, as it is commonly referred to, is a service that agriculturalists can provide. By reinventing farmland as a destination attraction, agriculturalists promote education of agricultural land and farming practices. The County's Zoning Ordinance has a Unique Agricultural Overlay zoning designation that allows agri-tourism related uses and special events. Permitted uses in the overlay zone include farm tours, bed and breakfasts, agricultural-related museums, on-site fruit and vegetable picking, weddings, and farm trail events. The Zoning Ordinance also has provisions for winery, olive oil, fruit and nut, micro-brewery, and micro-distillery production facilities to encourage tourism in the county and support agricultural activities related to these uses.

Williamson Act Land

As of 2017, there are 425 parcels and 210,155 acres enrolled in the Butte County's Land Conservation (Williamson) Act Program (Butte County 2022c). Butte County depends on the Williamson Act as its main regulatory tool to preserve agricultural lands in the face of development pressures. The program is popular throughout the state since it is voluntary and imposes no requirements on landowners other than prohibiting urban development during the duration of contracts (Sokolow and Bennett 2004). Lands under Williamson Act contracts are shown in Figure 5.2-2, *Williamson Act Lands*.



Source: Butte County, 2021; PlaceWorks, 2021

Figure 5.2-2
Williamson Act Lands

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5.2.2 STANDARDS OF SIGNIFICANCE

The proposed project would result in a significant agriculture and forestry resources impact if it would:

1. 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.
2. Conflict with existing zoning for agricultural use, or a Williamson Act contract.
3. Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g)).
4. Result in the loss of forest land or conversion of forest land to non-forest use.
5. 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
6. In combination with past, present, and reasonably foreseeable projects, result in cumulative impacts with respect to agricultural and forestry resources.

5.2.3 PROPOSED GENERAL PLAN POLICIES

The following are relevant policies of the Butte County General Plan Update, which may reduce impacts to agriculture and forestry resources as a result of implementation of the proposed project.

Agriculture Element

- AG-P1.3: Continue to work with landowners in establishing new and maintain existing Williamson Act contracts
- AG-P2.1: The County shall work with the Local Agency Formation Commission (LAFCO) to create and maintain a consistent approach to the conservation of agricultural land through the designation of reasonable and logical Sphere of Influence (SOI) boundaries.
- AG-P2.3: Redesignation and rezoning of land designated as Agriculture to an urban designation shall be allowed only when the applicant can demonstrate that the following criteria are met and mitigated:
    a. The lot(s) for which conversion is requested is adjacent to uses other than agriculture or agricultural support uses (e.g. receiving plants, hulling plants).
    b. The conversion will not be detrimental to existing agricultural operations.
    c. The conversion land is adjacent to existing urban infrastructure and conversion will constitute a logical contiguous extension of a designated urban area.
    d. No feasible alternative exists that is less detrimental to agriculture.

e. Full mitigation of impacts to the extent allowed under the law is provided, including, but not limited to, roads, drainage, schools, fire protection, law enforcement, recreation, sewage and lighting.

- AG-P2.6: The County shall retain and protect agricultural lands through the use of proactive land use techniques, including, but not limited to, the following: density bonuses, permitting increased density on developable land in exchange for protection of agricultural land.
- AG-P5.3: The Zoning Ordinance shall require that a buffer be established on property proposed for residential development in order to protect lands designated Agriculture by the General Plan and zoned Agriculture under the Zoning Ordinance from incompatible use conflicts. The desired standard shall be 300 feet but may be adjusted to address unusual circumstances. The desired standard shall be 300 feet but may be adjusted to address unusual circumstances. This buffer requirement does not apply to projects or between projects within the interior of the Butte LAFCO-adopted Biggs/Gridley Area of Concern, which are within the Spheres of Influence for the Cities of Biggs and Gridley, but will be required on projects that are developed along the exterior boundary of the Area of Concern.* .
- AG-P5.4: Land divisions that separate a farmer's home or an agricultural processing facility from the agricultural land shall be prohibited, unless the lot split meets the minimum lot size requirement of the zoning district.

Conservation and Open Space Element

- COS-P11.1: The County supports and promotes sustainable timber production
- COS-P11.2: The County shall support and cooperate with CAL FIRE in its responsibilities related to timber and forest practice laws.
- COS-P11.4: The County shall coordinate with the US Forest Service (USFS), Bureau of Land Management, California Department of Water Resources, and California Department of Fish and Wildlife to proactively monitor the landscape to prohibit the illegal conversion of timberlands for use in cannabis production.
- COS-P11.5: Urban development shall not limit the financial sustainability of timber operations.
- COS-P11.6: Residential uses on or adjacent to parcels zoned Timber Production shall not be allowed to negatively impact continued timber harvesting operations.

Land Use Element

- LU-P13.4: Allow residential land uses on the Agricultural Side of the Chico Area Greenline only within those areas designated for Very Low Density Residential and Rural Residential use on the Official Chico Area Greenline Map shown in Figure LU-7.
- LU-P13.5: Except as provided for in Policy LU-P13.4, require that all land use on the Agricultural Side of the Chico Area Greenline consist solely of agricultural land uses as provided by the "Agriculture" and "Agriculture Services" designations.

- LU-13.6: Guide land uses on the Urban Side of the Chico Area Greenline by the policies of the Land Use Element and the applicable urban land use designation as contained in the Land Use Element.
- LU-13.7: Conserve and protect for agricultural use the lands in the Chico area that are situated in the Agricultural Side of the Chico Area Greenline
- LU-P13.8: Accommodate future urban and suburban growth that occurs in the Chico area of Butte County on lands situated in the Urban Side of Chico Area Greenline.

5.2.4 IMPACT DISCUSSION

AG-1	The project would convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland) to non-agricultural use.

General Plan 2040

The land use map in General Plan Updates protects the majority of the farmlands of concern under CEQA in Butte County through agricultural land use designations. Specifically, the General Plan land use designation of Agriculture would protect farmland from conversion to non-agricultural use because it does not allow non-agricultural uses, except when such uses are accessory to and support an ongoing agricultural use. Although the Agriculture designation allows a single-family home, the land area devoted to such a use is minimal. In addition, a single-family home is an accessory use and beneficial to the continued agricultural use of the land by allowing farmers, ranchers, or caretakers to live on the property under agricultural production.

However, General Plan 2040 could allow for some conversion of farmlands of concern under CEQA to non-agricultural use. Acres of farmland of concern under CEQA could be subject to conversion through non-agricultural use such as residential uses. As shown in Figure 5.2-3, *Farmlands of Concern,* this farmland is scattered among parcels on the outskirts of Butte County's incorporated municipalities and in the unincorporated communities

Although General Plan 2040 could allow the conversion of farmlands of concern under CEQA, the purpose of the General Plan's Agriculture Element is to protect farmland from urbanization and to enhance the county's agricultural industry The General Plan 2040 includes policies which aim to protect and set limits to Butte County's agricultural lands from conversion to non-agricultural uses. Policy AG-P2.1 directs the County to work with the Local Agency Formation Commission (LAFCO) to create and maintain a consistent approach to the conservation of agricultural land through the designation of reasonable and logical Sphere of Influence (SOI) boundaries. Such as Policy AG-P2.3 which limits redesignation and rezoning of agricultural land to an urban designation. Policy AG-P2.6 directs the County to use proactive land use techniques, such as clustered development and density bonuses, to retain and protect agricultural land. In addition, Action AG-A2.1 directs the County to develop an agricultural mitigation ordinance that would help to mitigate potential losses of agricultural land. Additionally, agricultural lands west of Chico will be protected by the Chico Area Greenline through Goal LU-13 and its associated policies. Specifically, Policies LU-P13.4 and LU-P13.5 restrict non-agricultural land uses on the Agricultural Side of the Chico Area Greenline. In addition, Policy LU-P13.9 requires evidence of substantial benefits to the public to convert land on the Agricultural

Side of the Greenline to urban land, as well as findings that no other lands exist that are reasonably available and suitable for the proposed development.

However, the designation of farmlands of concern under CEQA for non-agricultural uses in the General Plan 2040 land use map could lead to the conversion of such farmland to non-agricultural uses, regardless of these goals, policies, and actions.

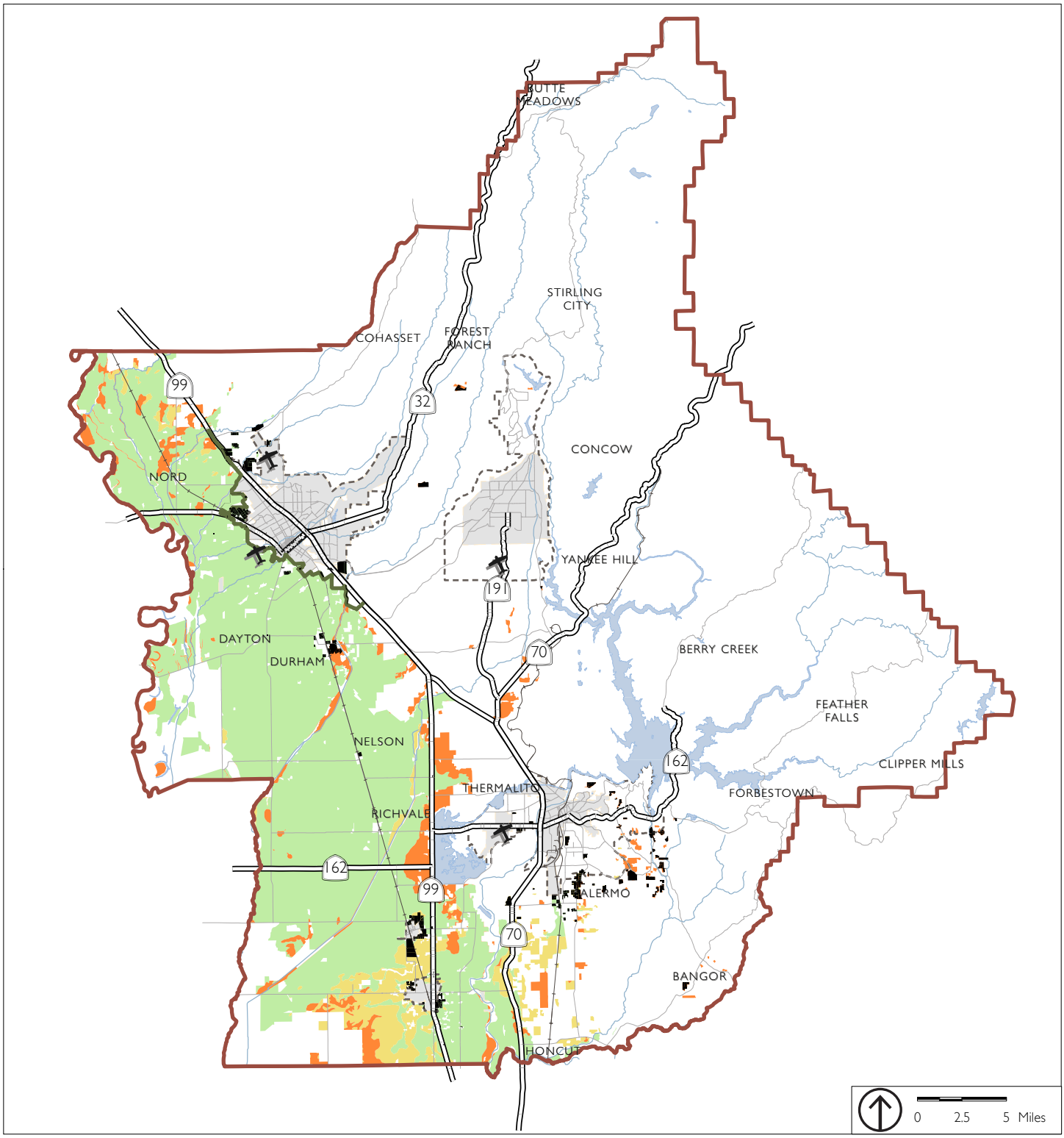
Level of Significance Before Mitigation: AG-1 would be significant and unavoidable.

Impact AG-1: Although the goals, policies, actions, and regulations of General Plan 2040 would reduce and partially offset the conversion of farmland, the proposed project could result in farmlands of concern under CEQA for non-agricultural uses. Therefore, the proposed project would have a significant and unavoidable impact related to the conversion of farmlands of concern under CEQA to non-agricultural uses.

Mitigation Measures

There are no feasible mitigation measures.

Level of Significance After Mitigation: AG-1 would be significant and unavoidable.



Sources: State of California Farmland Mapping and Monitoring Program, 2006; DC&E GIS, 2009.

Figure 5.2-3
Farmlands of Concern Conflicts

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Upper Ridge Community Plan

As discussed in Chapter 3, *Project Description*, the Upper Ridge Community Plan would increase development potential in the Upper Ridge community with 28 parcels redesignated from Retail and Office to Mixed-use land uses in the Old Magalia and Magalia Center neighborhoods.

According to the California Important Farmland Finder, the Upper Ridge Community Plan Area is currently designated as Urban and Built-Up Land (CDC 2022). There is no Prime Farmland, unique farmland, or farmland of statewide importance within the Upper Ridge Community Plan Area. Therefore, there would be no impact.

Level of Significance Before Mitigation: AG-1 would have no impact.

Mitigation Measures

No mitigation measures are required.

AG-2 The project would conflict with existing zoning for agricultural use or a Williamson Act contract.

General Plan 2040

The General Plan Update avoids conflicts with the majority of Williamson Act contracts. As of 2017, there are 425 parcels and 210,155 acres enrolled in the Butte County's Land Conservation (Williamson) Act Program (Butte County 2022c). General Plan 2040 designates all but 231.72 contracted acres within the Agriculture, Unique Agriculture Overlay, Timber Mountain, or Resource Conservation designations.[1] These Williamson Act parcel conflicts are distributed throughout Butte County.

Of the 231.72 contracted acres that are not designated for agricultural uses, approximately 45 acres are already in non-renewal status. As a result of these non-agricultural designations, owners of farmland under Williamson Act contracts may be encouraged to file for non-renewal or early cancellation of their contracts in anticipation of developing their properties.

General Plan 2040 includes policies and actions to minimize conflicts with Williamson Act contracts. Agriculture Element Policy AG-P1.3 calls for the County to continue to work with landowners in establishing new and maintaining existing Williamson Act contracts, and Action AG-A1.1 maintains County policies that address consistency with the Williamson Act and future amendments.

[1] Sections 51238.1(a) and (c)(3) of the California Government Code specify that the purpose of the Williamson Act is to preserve agricultural and open space land and support the use or conservation of natural resources. Therefore, Resource Conservation and Timber Mountain designations are consistent with the uses allowed under Williamson Act contracts.

Although General Plan 2040 would avoid most conflicts with Williamson Act contracts through the land use map, and although General Plan 2040 policies and actions would minimize conflicts with Williamson Act contracts, the proposed land use map includes residential or industrial designations for some areas that are under a Williamson Act contract. The parcels with Williamson Act conflicts are small parcels, and some are close to existing urbanized areas or established unincorporated communities. Small agricultural parcels may no longer be viable for current agricultural practices. In addition, the location of agricultural parcels near existing urban and suburban areas generally limits their ongoing viability for active agricultural activities. Nuisance complaints from neighbors, prohibitions on spraying pesticides near sensitive receptors, vandalism, and traffic all reduce the viability of working agricultural land in proximity to urban and suburban development. Therefore, placing or keeping an agricultural designation on these scattered parcels would not ensure ongoing agricultural use as intended under the Williamson Act contract.

In addition, placing or keeping an agricultural designation on parcels that are not viable for agricultural use is inconsistent with General Plan 2040 policies that promote economic opportunities. Placing or keeping an agricultural designation on parcels that are not viable for agricultural use, but are close to urban centers, would also direct development away from the urban centers, which is inconsistent with numerous General Plan 2040 policies encouraging a compact urban form. Therefore, placing or keeping an agricultural designation on these parcels would make General Plan 2040 internally inconsistent.

Consequently, General Plan 2040 would result in a significant and unavoidable impact related to conflicts with existing Williamson Act contracts.

Level of Significance Before Mitigation: AG-2 would be potentially significant.

Impact AG-2: Although the goals, policies, actions, and regulations of General Plan 2040 would reduce and partially offset conflicts with Williamson Act contracts, the proposed project designates approximately 90 acres of lands with existing Williamson Act contracts for residential or industrial uses. The parcels with Williamson Act conflicts are small, and many are close to existing urbanized areas or established unincorporated communities, which General Plan 2040 targets as appropriate locations for future growth. Small parcels may no longer be viable for current agricultural practices. Placing or keeping an agricultural designation on these parcels would make General Plan 2040 internally inconsistent. Therefore, this impact is significant and unavoidable.

Mitigation Measures

There are no feasible mitigation measures.

Level of Significance After Mitigation: AG-2 would be significant and unavoidable.

Upper Ridge Community Plan

As discussed in Chapter 3, *Project Description*, the Upper Ridge Community Plan would increase development potential in the Upper Ridge community with 28 parcels redesignated from Retail and Office to Mixed-use land uses in the Old Magalia and Magalia Center neighborhoods.

There are no parcels within an active Williamson Act contract within the Upper Ridge Community Plan (Butte County 2015). There are areas designated as an agriculture zone, which support, protect, and maintain a viable, long term agricultural sector in Butte County (Butte County 2022a, pg. 1-15). Areas of agricultural designation are zoned as AG-160, which allows a minimum permitted parcel size of 160 acres. The Upper Ridge Community Plan would not redesignate agricultural zoned parcels for residential development. Therefore, there would not be conflict with existing zoning for agricultural use, or a Williamson Act contract. Thus, no impact would occur.

Level of Significance Before Mitigation: AG-2 would have no impact.

Mitigation Measures

There are no feasible mitigation measures.

AG-3	The project would not conflict with existing zoning for, or cause rezoning of, forestland (as defined in Public Resources Code Section 12220(g)), timberland (as defined by Public Resources Code Section 4526), or timberland zoned Timberland Production (as defined by Government Code Section 51104(g)).

General Plan 2040

Public Resources Code Section 12220(g) defines "forest land" as "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." Government Code Section 51104(g) defines timberland as "privately owned land, or land acquired for state forest purposes, which is devoted to and used for growing and harvesting timber, or for growing and harvesting timber and compatible uses, and which is capable of growing an average annual volume of wood fiber of at least 15 cubic feet per acre." This analysis evaluates forest land in unincorporated Butte County, as mapped by the California Department of Forestry and Fire Protection Multi-Source Land Cover Data (2002), as covered with a density of trees of 10 percent or greater. As shown in Figure 5.2-3, some of the areas identified as forest land according to this State data are not lands that many people think of as forest land. It is important to remember that forest and timber lands defined by the State include both land that is used for timber harvesting and other forested land that has aesthetic, recreational, and biological amenities. The analysis identifies areas where land use designations that would conflict with preservation of forest land or timber production were applied to forest land.

The General Plan Update 2040 would not conflict with existing zoning for, or cause rezoning of forestland, or timberland zoned Timberland Production. Thus, no impact would occur.

Level of Significance Before Mitigation*:* AG-3 would have no impact.

Mitigation Measures

No feasible mitigation measures.

Upper Ridge Community Plan

As discussed in Chapter 3, *Project Description*, the Upper Ridge Community Plan would increase development potential in the Upper Ridge community with 28 parcels redesignated from Retail and Office to Mixed-use land uses in the Old Magalia and Magalia Center neighborhoods.

There are areas designated as a forest land zoned as Timber Mountain (TM) and as Timber Production (TPZ) within the Upper Ridge Community Plan Area (Butte County 2022a, pg. 1-15). Areas zoned as TM preserve Butte County's valuable timber resources and protect both the economic and environmental value of these lands. Areas zoned as TPZ preserve and protect land where timber is actively being grown and harvested, as well as minimize impacts to neighboring uses from active timber operations (Butte County Municipal Code, Section 24-15). However, the Upper Ridge Community Plan would not redesignate forestland for residential development. Therefore, there would be no loss of forest land or conversion of forest land to non-forest use. Thus, no impact would occur.

Level of Significance Before Mitigation: AG-3 would have no impact.

Mitigation Measures

No mitigation measures are required.

AG-4	The project would result in loss of forest land or conversion of forest land to non-forest use.

General Plan 2040

The General Plan Update would result in the conversion of forest lands to non-forest use for potential future development. Under the proposed General Plan Update, approximately 4,460 new acres of forest land would be subject to non-forest land use designations. The General Plan Update includes goals, policies, and actions in the Conservation and Open Space Element aimed to limit forest land conversion to non-forest uses.

Goal COS-11 and its associated policies and actions directs the County to protect timber resources. Specifically, Policy COS-P11.8, which states public facilities shall not be within Timber Production Zone if the facility would have a significant adverse effect on the production of timber, unless alternative sites for an essential public use cannot be located elsewhere. Policy COS-P11.5 states urban development shall not limit the financial sustainability of timber operations. Also, Policy COS-P11.6 requires residential uses on or adjacent to parcels zoned Timber Production shall not be allowed to negatively impact continued timber harvesting operations.

Although policies listed in the General Plan Update would help to mitigate impacts to loss of forest land, the proposed project would ultimately reduce and convert forestland to non-forest land uses to accommodate future demand.

Therefore, impacts to forest land under the General Plan Update would be significant and unavoidable.

Level of Significance Before Mitigation: AG-4 would be potentially significant.

Impact AG-4: Although the goals, policies, and actions of General Plan 2040 would help to mitigate impacts to loss of forest land, the proposed project would ultimately reduce and convert forestland to non-forest land uses to accommodate future demand. Approximately 4,460 new acres of forest land would be subject to non-forest land use designations, resulting in the conversion of forest lands to non-forest use designations for potential future development. Therefore, this impact is significant and unavoidable.

Mitigation Measures

There are no feasible mitigation measures.

Level of Significance After Mitigation: AG-4 would be significant and unavoidable.

Upper Ridge Community Plan

As discussed in Chapter 3, *Project Description*, the Upper Ridge Community Plan would increase development potential in the Upper Ridge community with 28 parcels redesignated from Retail and Office to Mixed-use land uses in the Old Magalia and Magalia Center neighborhoods.

There are areas designated as a forest land zoned as Timber Mountain (TM) (Butte County 2022a, pg. 1-15). The Upper Ridge Community Plan would not redesignate forestland for residential development. Therefore, there would be no loss of forest land or conversion of forest land to non-forest use. Thus, no impact would occur.

Level of Significance Before Mitigation: AG-4 would have no impact.

Mitigation Measures

There are no feasible mitigation measures.

AG-5	The project 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.

General Plan 2040

The General Plan Update would allow development that could result in potentially incompatible urban uses next to farms or ranches, creating circumstances that impair the productivity and profitability of agricultural operation, and could eventually lead farmers to take their land out of production. Adjacent urban development may also drive-up land values, increasing the property tax burden for farmland not protected by Williamson Act contracts.

However, County programs support the continuation of working farmland and agricultural land. One of the most important of these is the County's Right-to-Farm Ordinance. The Ordinance is intended to educate the public about the realities of living in a rural community surrounded by agricultural production activities and to indicate that these realities do not constitute nuisances that the County would support eradicating.

Furthermore, the General Plan Update includes goals, policies, actions, and regulations that reduce conflicts between agricultural operations and urban uses that could potentially result in farmland conversion. Agriculture Element Policy AG-P5.3 maintains the existing County requirement for a 300-foot buffer between agricultural and non-agricultural uses and dictates that the buffer be provided on the non-agricultural side. Action AG-A5.1 directs the County to periodically update the buffer requirements in the Zoning Ordinance and Buffer Implementation Guidelines to reduce conflicts between agricultural and residents and non-residential urban uses. In addition, the County's Agricultural/Residential Buffer Implementation Guidelines provide procedures for establishing a 300-foot buffer between agricultural and residential uses.

Other policies and actions under Agriculture Element Goal AG-5 seek to reduce conflicts between urban and agricultural uses, including Policy AG-P5.4, which prohibits land divisions that separate a farmer's home from the agricultural land, and Action AG-A5.2, which directs the County to periodically update the Right-to-Farm Ordinance to reflect changing practices.

The General Plan Update includes Conservation and Open Space Goal COS-11 and its associated policies and actions that will reduce conflicts between timber operations and urban uses that could potentially result in forest land conversion. In particular, Policy COS-P11.5 prohibits urban development from limiting the financial sustainability of timber operations, and Policy COS-P11.6 prohibits residential uses on or adjacent to parcels zoned for timber production from negatively impacting timber operations.

Together, these goals, policies, actions, and regulations would avoid changes to the agricultural and forest environment that would result in the conversion of farmlands or forest land of concern under CEQA to non-agricultural or non-forest uses, resulting in a less-than-significant impact.

Level of Significance Before Mitigation: AG-5 would be less than significant.

Mitigation Measures

No mitigation measures are required.

Upper Ridge Community Plan

As discussed in Chapter 3, *Project Description*, the Upper Ridge Community Plan would increase development potential in the Upper Ridge community with 28 parcels redesignated from Retail and Office to Mixed-use land uses in the Old Magalia and Magalia Center neighborhoods.

The locations of the Upper Ridge Community Plan neighborhoods are primarily characterized as urban environment; therefore, the project would not involve changes that could result in conversion of farmland to non-agricultural use or conversion of forest land to non-forest use. Thus, no impact would occur.

Level of Significance Before Mitigation: AG-5 would have no impact.

Mitigation Measures

No mitigation measures are required.

5.2.5 CUMULATIVE IMPACTS

AG-6	The proposed project, in combination with past, present, and reasonably foreseeable projects, would result in less than significant cumulative impacts with respect to agricultural and forestry resources.

General Plan 2040

The California Department of Finance Demographic Research Unit forecasts Butte County's population will be approximately 246, 453 by 2040, which is a 19.4 percent increase from 2020 conditions (DOF 2021). According to the American Farmland Trust, if current land use trends continue, by 2040, nearly 8,900 acres of Butte County farmland would be converted to urban uses (AFT 2022).

Development under General Plan 2040 would contribute to these cumulative agricultural impacts. Although General Plan 2040 goals, policies, actions and regulations would reduce and partially offset Butte County's contribution to these impacts, the overall cumulative agricultural impact would remain significant. Because the amount of growth foreseen in the region and the decisions of surrounding counties regarding conversion of agricultural land are outside the control of Butte County, the impact is significant and unavoidable.

Level of Significance Before Mitigation: AG-6 would be potentially significant.

Mitigation Measures

There are no feasible mitigation measures.

Level of Significance Before Mitigation: AG-6 would be significant and unavoidable.

Impact AG-6: Although the goals, policies, actions, and regulations of General Plan 2040 would reduce and partially offset regional agricultural impacts, the proposed project would contribute to cumulatively significant agricultural impacts in the region. The amount of growth foreseen in the region and the decisions of surrounding counties regarding conversion of agricultural land are outside the control of Butte County. Therefore, this impact is significant and unavoidable.

Mitigation Measures

There are no feasible mitigation measures.

Upper Ridge Community Plan

The Upper Ridge Community Plan would increase development potential in the Upper Ridge community with 28 parcels redesignated from Retail and Office to Mixed-use land uses in the Old Magalia and Magalia Center neighborhoods. There are areas within the Upper Ridge Community Plan designated as agricultural areas and forestlands. Since the Upper Ridge Community Plan does not aim to redesignate or rezone these areas, future development would not directly impact agricultural or forestry resources. Thus, no impacts would occur.

Level of Significance Before Mitigation: AG-6 would have no impact.

Mitigation Measures

No mitigation measures are required.

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5.3 AIR QUALITY

This chapter describes the potential air quality impacts due to the buildout of the General Plan Update and Upper Ridge Community Plan (URCP) in the County. This section describes the regulatory framework and existing conditions, identifies criteria used to determine impact significance, provides an analysis of the potential air quality impacts, and identifies proposed project policies and strategies and feasible mitigation measures that could minimize any potentially significant impacts.

Terminology

- **AAQS.** Ambient Air Quality Standards
- **CES.** CalEnviroScreen. CES is a mapping tool that helps identify the California communities most affected by sources of pollution and where people are often especially vulnerable to pollution's effects.
- **Concentrations.** Refers to the amount of pollutant material per volumetric unit of air. Concentrations are measured in parts per million (ppm), parts per billion (ppb), or micrograms per cubic meter ($\mu g/m^3$).
- **Criteria Air Pollutants.** Those air pollutants specifically identified for control under the Federal Clean Air Act (currently seven—carbon monoxide, nitrogen oxides, lead, sulfur oxides, ozone, and coarse and fine particulates).
- **DPM.** Diesel particulate matter.
- **Emissions.** Refers to the actual quantity of pollutant, measured in pounds per day or tons per year.
- **ppm.** Parts per million.
- **Sensitive receptor.** Land uses that are considered more sensitive to air pollution than others due to the types of population groups or activities involved. These land uses include residential, retirement facilities, hospitals, and schools.
- **TAC.** Toxic air contaminant.
- **$\mu g/m^3$.** Micrograms per cubic meter.
- **VMT.** Vehicle miles traveled.

5.3.2 ENVIRONMENTAL SETTING

5.3.2.1 AIR POLLUTANTS OF CONCERN

Criteria Air Pollutants

The Federal and State governments have established ambient air quality standards for the following seven criteria pollutants: ozone (O_3), carbon monoxide (CO), nitrogen dioxide (NO_2), sulfur dioxide (SO_2), coarse particulate matter (PM_{10}), fine particulate matter ($PM_{2.5}$), and lead (Pb). Ozone and NO_2 are generally considered "regional" pollutants, as these pollutants or their precursors affect air quality on a regional scale.

Pollutants such as CO, SO_2, and lead are considered local pollutants that tend to accumulate in the air locally. Particulate matter is considered a localized pollutant as well as a regional pollutant. Brief descriptions of these pollutants are provided below Table 5.3-1, *Criteria Air Pollutants Health Effects Summary*, which summarizes the potential health effects associated with criteria air pollutants.

TABLE 5.3-1 CRITERIA AIR POLLUTANT HEALTH EFFECTS SUMMARY

Pollutant	Health Effects	Examples of Sources
Carbon Monoxide (CO)	Chest pain in heart patients Headaches, nausea Reduced mental alertness Death at very high levels	Any source that burns fuel such as cars, trucks, construction and farming equipment, and residential heaters and stoves
Ozone (O_3)	Cough, chest tightness Difficulty taking a deep breath Worsened asthma symptoms Lung inflammation	Atmospheric reaction of organic gases with nitrogen oxides in sunlight
Nitrogen Dioxide (NO_2)	Increased response to allergens Aggravation of respiratory illness	Same as carbon monoxide sources
Particulate Matter (PM_{10} & $PM_{2.5}$)	Hospitalizations for worsened heart diseases Emergency room visits for asthma Premature death	Cars and trucks (particularly diesels) Fireplaces and woodstoves Windblown dust from overlays, agriculture, and construction
Sulfur Dioxide (SO_2)	Aggravation of respiratory disease (e.g., asthma and emphysema) Reduced lung function	Combustion of sulfur-containing fossil fuels, smelting of sulfur-bearing metal ores, and industrial processes
Lead (Pb)	Behavioral and learning disabilities in children Nervous system impairment	Contaminated soil

Sources: CARB 2022a; South Coast AQMD 2005.

Ozone (O_3)

Ozone is a photochemical oxidant and the major component of smog. Although O_3 in the upper atmosphere is essential to life by shielding the earth from harmful ultraviolet radiation from the sun, high concentrations of O_3 at ground level represent a significant health and environmental concern, capable of causing damage to lung tissue and plants. O_3 is formed when precursor emissions of volatile organic compounds (VOC)/reactive organic gases (ROGs) and oxides of nitrogen (NO_X) react in the presence of sunlight and higher temperatures. Peak O_3 levels thus generally occur during warm periods. VOCs are emitted from sources as diverse as autos, chemical manufacturing, dry cleaners, paint shops and other sources using solvents. NO_X results from fuel combustion occurring with transportation and industrial sources (BCAQMD 2014).

Particulate Matter (PM_{10} and $PM_{2.5}$)

Respirable PM is fine material, metal, soot, smoke, and dust particles suspended in the air. For health reasons, we are most concerned with inhalable particulate matter less than 10 micrometers in diameter (PM_{10}), and less than 2.5 micrometers in diameter ($PM_{2.5}$). Particles of these sizes can permanently lodge in

the deepest and most sensitive areas of the lung, and can aggravate many respiratory illnesses including asthma, bronchitis, and emphysema. Sources of directly emitted particulates in Butte County include soil from farming, construction dust, paved road dust, smoke from residential wood combustion, and exhaust from mobile sources such as cars and trucks. The valley can also be impacted by agricultural and residential burning (BCAQMD 2014).

Carbon Monoxide (CO)

CO is a colorless, odorless, and poisonous gas produced by incomplete burning of carbon during fuel combustion. When CO enters the bloodstream, it reduces the delivery of oxygen to the body's organs and tissues. Health threats are most serious for those who suffer from cardiovascular disease, particularly those with angina or peripheral vascular disease. Exposure to elevated CO levels can cause impairment of visual perception, manual dexterity, learning ability and performance of complex tasks (BCAQMD 2014).

Lead (Pb)

Lead exposure can occur through multiple pathways, including inhalation of air and ingestion of lead in food, water, soil, or dust. Excessive lead exposure can cause seizures, mental retardation and/or behavioral disorders; low doses of lead can lead to damage of the central nervous system. Lead may also be a factor in high blood pressure and subsequent heart disease (BCAQMD 2014).

Nitrogen Dioxide (NO_2)

NO_2 is a brownish, highly reactive gas that is present in all urban atmospheres. NO_2 can irritate the lungs, cause bronchitis and pneumonia, and lower resistance to respiratory infections. Nitrogen oxides are an important precursor both to ozone (O_3) and acid rain and may affect both terrestrial and aquatic ecosystems. NO_2 is primarily formed in the atmosphere by oxidation of the primary air pollutant nitric oxide (NO_X) which, in turn, reacts in the atmosphere with VOCs to produce O_3. The two major emission sources for NO_X, which forms when fuel is burned at high temperatures, are transportation and stationary fuel combustion sources such as electric utility and industrial boilers (BCAQMD 2014).

Sulfur Dioxide (SO_2)

Sulfur dioxide 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. SO_2 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. Ambient SO_2 results largely from stationary sources such as coal and oil combustion, steel mills, refineries, pulp and paper mills, and nonferrous smelters (BCAQMD 2014).

Toxic Air Contaminants

People exposed to TACs at sufficient concentrations and durations may have an increased chance of getting cancer or experiencing other serious health effects. These health effects can include damage to the immune system as well as neurological, reproductive (e.g., reduced fertility), developmental, respiratory, and other

health problems (USEPA 2022a). By the last update to the TAC list in December 1999, the California Air Resources Control Board (CARB) had designated 244 compounds as TACs (CARB 1999). Additionally, CARB has implemented control measures for a number of compounds that pose high risks and show potential for effective control. There are no air quality standards for TACs. Instead, TAC impacts are evaluated by calculating the health risks associated with a given exposure. The majority of the estimated health risks from TACs can be attributed to relatively few compounds, the most relevant to the proposed project being particulate matter from diesel-fueled engines.

Diesel Particulate Matter

In 1998, CARB identified DPM as a TAC. Previously, the individual chemical compounds in diesel exhaust were considered TACs. Almost all diesel exhaust particles are 10 microns or less in diameter. Because of their extremely small size, these particles can be inhaled and eventually trapped in the bronchial and alveolar regions of the lungs. Long-term (chronic) inhalation of DPM is likely a lung cancer risk. Short-term (i.e., acute) exposure can cause irritation and inflammatory symptoms and may exacerbate existing allergies and asthma symptoms (USEPA 2002).

Placement of New Sensitive Receptors

Because placement of sensitive land uses falls outside CARB's jurisdiction, CARB developed and approved the *Air Quality and Land Use Handbook: A Community Health Perspective* to address the siting of sensitive land uses in the vicinity of freeways, distribution centers, rail yards, ports, refineries, chrome-plating facilities, dry cleaners, and gasoline-dispensing facilities (CARB 2005). This guidance document was developed to assess compatibility and associated health risks when placing sensitive receptors near existing pollution sources.

CARB's recommendations on the siting of new sensitive land uses—identified in Table 5.3-2, *CARB Recommendations for Siting New Sensitive Land Uses*—were based on a compilation of recent studies that evaluated data on the adverse health effects from proximity to air pollution sources.

TABLE 5.3-2 CARB RECOMMENDATIONS FOR SITING NEW SENSITIVE LAND USES

Source/Category	Advisory Recommendations
Freeways and High-Traffic Roads	Avoid siting new sensitive land uses within 500 feet of a freeway, urban roads with 100,000 vehicles per day, or rural roads with 50,000 vehicles per day.
Distribution Centers	Avoid siting new sensitive land uses within 1,000 feet of a distribution center (that accommodates more than 100 trucks per day, more than 40 trucks with operating transport refrigeration units [TRUs] per day, or where TRU unit operations exceed 300 hours per week).
Rail Yards	Take into account the configuration of existing distribution centers and avoid locating residences and other sensitive land uses near entry and exit points.
Ports	Avoid siting new sensitive land uses within 1,000 feet of a major service and maintenance rail yard. Within one mile of a rail yard, consider possible siting limitations and mitigation approaches.
Refineries	Avoid siting of new sensitive land uses immediately downwind of ports in the most heavily impacted zones. Consult local air districts or CARB on the status of pending analyses of health risks.

Source/Category	Advisory Recommendations
Chrome Platers	Avoid siting new sensitive land uses immediately downwind of petroleum refineries. Consult with local air districts and other local agencies to determine an appropriate separation.
Dry Cleaners Using Perchloroethylene	Avoid siting new sensitive land uses within 1,000 feet of a chrome plater.
Gasoline Dispensing Facilities	Avoid siting new sensitive land uses within 300 feet of any dry-cleaning operation. For operations with two or more machines, provide 500 feet. For operations with three or more machines, consult with the local air district. Do not site new sensitive land uses in the same building with perchloroethylene dry cleaning operations.

Source: CARB 2005.

The key observation in these studies is that proximity to air pollution sources substantially increases both exposure and the potential for adverse health effects. There are three carcinogenic TACs that constitute the majority of the known health risks from motor vehicle traffic: DPM from trucks and benzene and 1,3-butadiene from passenger vehicles.

In 2017, CARB provided a supplemental technical advisory to the handbook for near-roadway air pollution exposure, "Strategies to Reduce Air Pollution Exposure Near High-Volume Roadways." Strategies include practices and technologies that reduce traffic emissions, increase dispersion of traffic pollution (or the dilution of pollution in the air), or remove pollution from the air (CARB 2017).

5.3.2.2 REGULATORY FRAMEWORK

The federal Clean Air Act (CAA) governs air quality in the United States and California. Air quality in the state is also governed by more stringent regulations under the California CAA. At the federal level, the US Environmental Protection Agency (EPA) administers the CAA, while the California CAA is administered by CARB at the State level and by the Butte County Air Quality Management District (BCAQMD) at the regional and local levels.

Federal and State Regulations

Ambient Air Quality Standards

The Clean Air Act was passed in 1963 by the US Congress and has been amended several times. The 1970 CCA amendments strengthened previous legislation and laid the foundation for the regulatory scheme of the 1970s and 1980s. In 1977, Congress again added several provisions, including nonattainment requirements for areas not meeting National AAQS and the Prevention of Significant Deterioration program. The 1990 amendments represent the latest in a series of federal efforts to regulate the protection of air quality in the United States. The CCA allows states to adopt more stringent standards or include other pollutants. The California CCA, signed in 1988, requires all areas of the state to achieve and maintain the California AAQS by the earliest practical date. The California AAQS tend to be more restrictive than the National AAQS.

The National and California AAQS are the levels of air quality considered to provide a margin of safety in the protection of the public health and welfare. They are designed to protect "sensitive receptors" most susceptible to further respiratory distress, such as asthmatics, the elderly, very young children, people already weakened by other disease or illness, and persons engaged in strenuous work or exercise. Healthy adults can tolerate occasional exposure to air pollutant concentrations considerably above these minimum standards before adverse effects are observed.

Both California and the federal government have established health-based AAQS for seven air pollutants, which are shown in Table 5.3-3, *Ambient Air Quality Standards for Criteria Air Pollutants*. These pollutants are ozone (O_3), nitrogen dioxide (NO_2), carbon monoxide (CO), sulfur dioxide (SO_2), coarse inhalable particulate matter (PM_{10}), fine inhalable particulate matter ($PM_{2.5}$), and lead (Pb). In addition, the state has set standards for sulfates, hydrogen sulfide, vinyl chloride, and visibility-reducing particles.

TABLE 5.3-3 AMBIENT AIR QUALITY STANDARDS FOR CRITERIA AIR POLLUTANTS

Pollutant	Averaging Time	California Standard[1]	Federal Primary Standard[2]	Major Pollutant Sources
Ozone (O_3)[3]	1 hour	0.09 ppm	*	Motor vehicles, paints, coatings, and solvents.
	8 hours	0.070 ppm	0.070 ppm	
Carbon Monoxide (CO)	1 hour	20 ppm	35 ppm	Internal combustion engines, primarily gasoline-powered motor vehicles.
	8 hours	9.0 ppm	9 ppm	
Nitrogen Dioxide (NO_2)	Annual Arithmetic Mean	0.030 ppm	0.053 ppm	Motor vehicles, petroleum-refining operations, industrial sources, aircraft, ships, and railroads.
	1 hour	0.18 ppm	0.100 ppm	
Sulfur Dioxide (SO_2)	Annual Arithmetic Mean	*	0.030 ppm	Fuel combustion, chemical plants, sulfur recovery plants, and metal processing.
	1 hour	0.25 ppm	0.075 ppm	
	24 hours	0.04 ppm	0.14 ppm	
Respirable Coarse Particulate Matter (PM_{10})	Annual Arithmetic Mean	20 µg/m^3	*	Dust and fume-producing construction, industrial, and agricultural operations, combustion, atmospheric photochemical reactions, and natural activities (e.g., wind-raised dust and ocean sprays).
	24 hours	50 µg/m^3	150 µg/m^3	
Respirable Fine Particulate Matter ($PM_{2.5}$)[4]	Annual Arithmetic Mean	12 µg/m^3	12 µg/m^3	Dust and fume-producing construction, industrial, and agricultural operations, combustion, atmospheric photochemical reactions, and natural activities (e.g., wind-raised dust and ocean sprays).
	24 hours	*	35 µg/m^3	
Lead (Pb)	30-Day Average	1.5 µg/m^3	*	Present source: lead smelters, battery manufacturing & recycling facilities. Past source: combustion of leaded gasoline.
	Calendar Quarter	*	1.5 µg/m^3	
	Rolling 3-Month Average	*	0.15 µg/m^3	

Pollutant	Averaging Time	California Standard[1]	Federal Primary Standard[2]	Major Pollutant Sources
Sulfates (SO_4)[5]	24 hours	25 µg/m^3	No Federal Standard	Industrial processes.
Visibility Reducing Particles	8 hours	ExCo =0.23/km visibility of 10≥ miles	No Federal Standard	Visibility-reducing particles consist of suspended particulate matter, which is a complex mixture of tiny particles that consists of dry solid fragments, solid cores with liquid coatings, and small droplets of liquid. These particles vary greatly in shape, size and chemical composition, and can be made up of many different materials such as metals, soot, soil, dust, and salt.
Hydrogen Sulfide	1 hour	0.03 ppm	No Federal Standard	Hydrogen sulfide (H2S) is a colorless gas with the odor of rotten eggs. It is formed during bacterial decomposition of sulfur-containing organic substances. Also, it can be present in sewer gas and some natural gas, and can be emitted as the result of geothermal energy exploitation.
Vinyl Chloride	24 hours	0.01 ppm	No Federal Standard	Vinyl chloride (chloroethene), a chlorinated hydrocarbon, is a colorless gas with a mild, sweet odor. Most vinyl chloride is used to make polyvinyl chloride (PVC) plastic and vinyl products. Vinyl chloride has been detected near landfills, sewage plants, and hazardous waste sites, due to microbial breakdown of chlorinated solvents.

Source: CARB 2016.
Notes: ppm: parts per million; µg/m^3: micrograms per cubic meter
* Standard has not been established for this pollutant/duration by this entity.
[1] California standards for O_3, CO (except 8-hour Lake Tahoe), SO_2 (1 and 24 hour), NO_2, and particulate matter (PM_{10}, $PM_{2.5}$, and visibility reducing particles), are values that are not to be exceeded. All others are not to be equaled or exceeded. California ambient air quality standards are listed in the Table of Standards in Section 70200 of Title 17 of the California Code of Regulations.
[2] National standards (other than O_3, PM, and those based on annual arithmetic mean) are not to be exceeded more than once a year. The O_3 standard is attained when the fourth highest 8-hour concentration measured at each site in a year, averaged over three years, is equal to or less than the standard. For PM_{10}, the 24-hour standard is attained when the expected number of days per calendar year with a 24-hour average concentration above 150 µg/m^3 is equal to or less than one. For $PM_{2.5}$, the 24-hour standard is attained when 98 percent of the daily concentrations, averaged over three years, are equal to or less than the standard.
[3] On October 1, 2015, the national 8-hour ozone primary and secondary standards were lowered from 0.075 to 0.070 ppm.
[4] On December 14, 2012, the national annual $PM_{2.5}$ primary standard was lowered from 15 µg/m^3 to 12.0 µg/m^3. The existing national 24-hour $PM_{2.5}$ standards (primary and secondary) were retained at 35 µg/m^3, as was the annual secondary standard of 15 µg/m^3. The existing 24-hour PM_{10} standards (primary and secondary) of 150 µg/m^3 also were retained. The form of the annual primary and secondary standards is the annual mean, averaged over 3 years.
[5] On June 2, 2010, a new 1-hour SO_2 standard was established and the existing 24-hour and annual primary standards were revoked. The 1-hour national standard is in units of parts per billion (ppb). California standards are in units of parts per million (ppm). To directly compare the 1-hour national standard to the California standard the units can be converted to ppm. In this case, the national standard of 75 ppb is identical to 0.075 ppm.

California has also adopted a host of other regulations that reduce criteria pollutant emissions.

- AB 1493: Pavley Fuel Efficiency Standards. Pavley I is a clean-car standard that reduces emissions from new passenger vehicles (light-duty auto to medium-duty vehicles) from 2009 through 2016. In January 2012, CARB approved the Advanced Clean Cars program (formerly known as Pavley II) for model years 2017 through 2025.
- Heavy-Duty (Tractor-Trailer) GHG Regulation. The tractors and trailers subject to this regulation must either use EPA SmartWay certified tractors and trailers or retrofit their existing fleet with SmartWay-verified technologies. The regulation applies primarily to owners of 53-foot or longer box-type trailers, including both dry-van and refrigerated-van trailers, and owners of the heavy-duty tractors that pull them on California highways. These owners are responsible for replacing or retrofitting their affected vehicles with compliant aerodynamic technologies and low-rolling-resistance tires. Sleeper-cab tractors model year 2011 and later must be SmartWay certified. All other tractors must use SmartWay-verified low-rolling-resistance tires. This rule has criteria air pollutant co-benefits.
- SB 1078 and SB 107: Renewables Portfolio Standards. A major component of California's Renewable Energy Program is the renewables portfolio standard established under Senate Bills 1078 (Sher) and 107 (Simitian). Under this standard, certain retail sellers of electricity were required to increase the amount of renewable energy each year by at least 1 percent in order to reach at least 20 percent by December 30, 2010.
- California Code of Regulations (CCR) Title 20: Appliance Energy Efficiency Standards. The 2006 Appliance Efficiency Regulations (20 CCR secs. 1601–1608) were adopted by the California Energy Commission on October 11, 2006, and approved by the California Office of Administrative Law on December 14, 2006. The regulations include standards for both federally regulated appliances and non–federally regulated appliances. This code reduces natural gas use from appliances.
- 24 CCR, Part 6: Building and Energy Efficiency Standards. Energy conservation standards for new residential and nonresidential buildings adopted by the California Energy Resources Conservation and Development Commission (now the California Energy Commission) in June 1977. This code reduces natural gas use from buildings.
- 24 CCR, Part 11: Green Building Standards Code. Establishes planning and design standards for sustainable site development, energy efficiency (in excess of the California Energy Code requirements), water conservation, material conservation, and internal air contaminants. This code reduces natural gas use from buildings.

Tanner Air Toxics Act and Air Toxics Hot Spot Information and Assessment Act

Public exposure to TACs is a significant environmental health issue in California. In 1983, the California legislature enacted a program to identify the health effects of TACs and reduce exposure to them. The California Health and Safety Code defines a TAC as "an air pollutant which may cause or contribute to an increase in mortality or in serious illness, or which may pose a present or potential hazard to human health" (17 CCR sec. 93000). A substance that is listed as a hazardous air pollutant pursuant to Section 112(b) of the federal Clean Air Act (42 US Code sec. 7412[b]) is a toxic air contaminant. Under State law, the California Environmental Protection Agency, acting through CARB, is authorized to identify a substance as a TAC if it is

an air pollutant that may cause or contribute to an increase in mortality or serious illness, or may pose a present or potential hazard to human health.

California regulates TACs primarily through Assembly Bill (AB) 1807 (Tanner Air Toxics Act) and AB 2588 (Air Toxics "Hot Spot" Information and Assessment Act of 1987). The Tanner Air Toxics Act set up a formal procedure for CARB to designate substances as TACs. Once a TAC is identified, CARB adopts an "airborne toxics control measure" for sources that emit that TAC. If there is a safe threshold for a substance (i.e., a point below which there is no toxic effect), the control measure must reduce exposure to below that threshold. If there is no safe threshold, the measure must incorporate "toxics best available control technology" to minimize emissions. To date, CARB has established formal control measures for 11 TACs that are identified as having no safe threshold.

Under AB 2588, TAC emissions from individual facilities are quantified and prioritized by the air quality management district or air pollution control district. High-priority facilities are required to perform a health risk assessment, and if specific thresholds are exceeded, are required to communicate the results to the public through notices and public meetings.

CARB has promulgated the following specific rules to limit TAC emissions:

- 13 CCR Chapter 10 Section 2485.: Airborne Toxic Control Measure to Limit Diesel-Fueled Commercial Motor Vehicle Idling. Generally restricts on-road diesel-powered commercial motor vehicles with a gross vehicle weight rating of greater than 10,000 pounds from idling more than five minutes.
- 13 CCR Chapter 10 Section 2480: Airborne Toxic Control Measure to Limit School Bus Idling and Idling at Schools. Generally restricts a school bus or transit bus from idling for more than five minutes when within 100 feet of a school.
- 13 CCR Section 2477 and Article 8: Airborne Toxic Control Measure for In-Use Diesel-Fueled Transport Refrigeration Units (TRU) and TRU Generator Sets and Facilities Where TRUs Operate. Regulations established to control emissions associated with diesel-powered TRUs.

Regional Regulations

Butte County Air Quality Management District

The BCAQMD is the local air district responsible for local air quality regulation in Butte County. The BCAQMD's primary responsibility is to regulate stationary sources and develop plans to achieve and maintain air quality standards. CARB and the EPA have jurisdiction over controlling emissions from mobile sources. The BCAQMD has jurisdiction over air quality matters in Butte County. Formerly a department of the Butte County government, it is now an independent special district under California law.

BCAQMD's mission to improve air quality includes adopting and enforcing rules and regulations to attain and maintain air quality standards, issuing permits for and inspecting stationary sources of air pollutants, responding to citizen complaints, monitoring air quality and meteorological conditions, awarding grants to reduce mobile emissions, implementing public outreach campaigns, assisting Butte County jurisdictions in

addressing climate change, and updating and evaluating consistency with the Northern Sacramento Valley Air Quality Attainment Plan.

The stationary "direct" sources of air contaminants over which BCAQMD has permit authority include, but are not limited to, power plants, gasoline stations, dry cleaners, internal combustion engines, and surface-coating operations. BCAQMD does not, however, exercise permit authority over "indirect" emission sources. Indirect sources are contributors to air pollution and include facilities and land uses that may not emit significant amounts of pollution directly themselves, but are responsible for indirect emissions, such as:

- Motor vehicle trips attracted to or generated by a land use.
- On-site combustion of natural gas and propane for heating.
- Architectural coatings (paints, stains) and consumer products.
- Landscape maintenance.

The BCAQMD works with the Butte County Association of Governments (BCAG) to ensure a coordinated approach in the development and implementation of transportation plans throughout the county. This coordination ensures compliance with pertinent provisions of the CAA and California CAA as well as with related transportation legislation.

Air Quality Plans

The California CAA requires districts to adopt air quality attainment plans and to review and revise their plans to address deficiencies in interim measures of progress once every three years. The Triennial Air Quality Attainment Plan (AQAP) was created by the air districts in the Northern Sacramento Valley (SVABCC 2021). The purpose of the plan is to achieve and maintain healthy air quality throughout the northern air basin. The plan addresses the progress made in implementing the original plan, submitted to CARB in 1991, and has been updated every three years, most recently in 2021, and was approved by the District Governing Board in April 2022. The AQAP includes control strategies necessary to attain the California ozone standard at the earliest practicable date (BCAQMD 2022).

BCAQMD Rules

All projects are subject to BCAQMD Rules in effect at the time of activity, including, but not limited to the following:

- Rule 200, Nuisance: No person shall discharge from any non-vehicular source such quantities of air contaminants or other material which cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public or which endanger the comfort, repose, health or safety of any such persons or the public or which cause or have a natural tendency to cause injury or damage to business or property.
- Rule 201, Visible Emissions: No person shall discharge into the atmosphere from any single non-vehicular source of emission whatsoever any air contaminant, other than uncombined water vapor, for a period or periods aggregating more than three minutes in any one hour which is:

- As dark or darker in shade as that designated as No. 2 on the Ringelmann Chart as published by the U.S. Bureau of Mines; or,
- Of such opacity as to obscure an observers view to a degree equal to or greater than does smoke described in Section 1 of this Rule.

- Rule 202, Particulate Matter Concentration: A person shall not discharge into the atmosphere from any source particulate matter in excess of 0.3 grains per cubic foot of gas at standard conditions.

  When the source involves a combustion process, the concentration must be calculated to 12 percent CO_2. In measuring the combustion contaminants from incinerators used to dispose of combustible refuse by burning, the CO_2 produced by combustion of any liquid or gaseous fuels shall be excluded from the calculation of 12 percent of CO_2.

- Rule 205, Fugitive Dust Emissions: The purpose of this rule is to reduce ambient concentrations and limit fugitive emissions of coarse particulate matter (PM_{10}) from construction activities, bulk material handling and storage, carryout and track-out, and similar activities, weed abatement activities, unpaved parking lots, unpaved staging areas, unpaved roads, inactive disturbed land, disturbed open areas, and windblown dust.

- Rule 207, Wood Burning Devices: The purpose of this rule is to provide requirements related to sale, installation, operation and testing of wood-burning stoves in order to minimize air pollutant emissions.

- Rule 230, Architectural Coatings: The purpose of this rule to limit the quantity of VOCs in architectural coatings supplied, sold, offered for sale, applied, solicited for application, or manufactured for use within the District.

- Rule 400, Permit Requirements: The purpose of this rule is to require any person constructing, altering, or operating a source that emits or may emit air contaminants to request an Authority to Construct or Permit to Operate from the Air Pollution Control Officer and to provide an orderly procedure for application, review, and authorization of new sources and of the modification and operation of existing sources of air pollution. Stationary sources that are subject to Rule 1101—Title V-Federal Operating Permits—of these Rules and Regulations shall also comply with the procedures specified in this rule.

- Rule 430, State New Source Review: The purpose of this rule is to establish pre-construction review requirements for new and modified stationary sources of air pollution for use of Best Available Control Technology, offsets, and analysis of air quality impacts, and to ensure that the operation of such sources does not interfere with the attainment or maintenance of ambient air quality standards, and complies with all other applicable Butte County Air Quality Management District Rules and Regulations.

- Rule 432, Federal New Source Review: The purpose of this Rule is to establish pre-construction review requirements for new and modified major stationary sources and major modifications of air pollution for use of Best Available Control Technology, offsets, and analysis of air quality impacts, and to ensure that the operation of such sources does not interfere with the attainment or maintenance of ambient air quality standards and complies with all other applicable requirements.

Butte County General Plan 2030

The following policies are in the existing General Plan regarding air quality. The numbering is from the existing General Plan and therefore may not be consecutive.

Land Use Element

- Goal LU-3 Create communities where there is a sense of well-being where families and neighbors can socialize, interact, and play.
    - LU-P3.2 Newly developed neighborhoods shall include parks and recreation facilities. Sidewalks, bike paths, and other routes shall provide circulation to surrounding areas.
- Goal LU-4 Provide high-quality housing in a range of residential densities and types.
    - LU-P4.2 Residentially-designated land with High Density Residential and Very High Density Residential land use designations shall be developed at or above the minimum density range.
    - LU-P4.3 Generally, higher density housing shall be located along collector and arterial streets and within easy walking distance of public facilities.
- Goal LU-5 Provide adequate land for and promote the development of attractive commercial and industrial areas and uses that provide goods, services, and jobs.
    - LU-P5.2 Industrial and heavy commercial uses shall be grouped into integrated industrial parks.
    - LU-P5.3 New industrial uses shall be designed to avoid adverse impacts to adjacent uses, particularly residential neighborhoods, with respect to, but not limited to, noise, dust and vibration, water quality, air quality, agricultural resources, and biological resources.
- Goal LU-6 Provide adequate land for the development of public and quasipublic uses, as a means to provide necessary public services and facilities in support of existing and new residential, commercial, and industrial land uses.
    - LU-P6.3 New County government buildings and other public and quasi-public uses, such as hospitals, meeting halls, and private schools, shall be located in existing urbanized areas in convenient, central locations that provide maximum access for the maximum number of residents.
    - LU-P6.4 Development projects that provide lands for private open spaces, parks, community service facilities, such as places of worship and daycare facilities, and public facilities may be allowed to transfer density to other portions of the site.
- Goal LU-8 Promote development near existing infrastructure and services, and within already-developed areas.
    - LU-P8.2 The County shall direct projected growth to areas where the appropriate level of transportation infrastructure is or will be available during the planning period.

- LU-P8.3 Applicants intending to develop sites served by existing public facilities shall be encouraged to develop at the highest allowable density and intensity.
- LU-P8.4 New industrial development shall be encouraged to locate in existing industrial areas until existing industrial areas have been fully utilized.
- LU-P8.5 Stores providing goods and services to support daily life in neighborhoods should be located within walking distance to the majority of neighborhoods.

Economic Development Element

- Goal ED-2 Promote and support the local agricultural economic sector.
  - ED-P2.6 The County supports programs and projects that would help Butte County farmers provide carbon offsets, if and when new regulations require industries to provide carbon offsets.
  - ED-P2.7 The County supports programs and projects that utilize agricultural by-products for "green" building material production and/or renewable energy production, such as using straw bales for building or converting rice straw to bio-fuels.

Circulation Element

- Goal CIR-2 Plan for transportation modes and strategies that ensure good air quality, reduce greenhouse gas emissions, reduce petroleum consumption and reduce the need to devote additional lands to transportation uses.
  - CIR-P2.1 Carpooling shall be encouraged by providing additional carpool pickup and park-and-ride locations near transit centers and at freeway interchanges.
  - CIR-P2.2 Trip reduction among County employees shall be encouraged. Specific measures to encourage trip reduction could include providing subsidies, bicycle facilities, alternative work schedules, ridesharing, telecommuting and work-at-home programs, employee education and preferential parking for carpools/vanpools.
  - CIR-P2.4 Employers shall be encouraged to provide transit subsidies, bicycle facilities, alternative work schedules, ridesharing, telecommuting and work-at-home programs, employee education and preferential parking for carpools/vanpools.
  - CIR-P2.5 Transportation corridors for renewable energy transmission and for new transit lines shall be preserved.
  - CIR-P2.6 The County shall incorporate "Complete Streets" policies that are designed and built to be safe for all users, including pedestrians, bicyclists and transit users.
  - CIR-P2.7 Where feasible and appropriate, and where non-motorized travel is reasonably expected, the width of existing streets shall be reduced through bulb outs, medians, pedestrian islands and similar methods, and planting shade trees in landscaped areas within and adjacent to streets, while not jeopardizing emergency response and future capacity requirements as determined by the Butte County Fire Department and Public Works Department.

Conservation and Open Space Element

- Goal COS-1 Reduce greenhouse gas emissions to 1990 levels by 2020.
    - COS-P1.5 New developments should have street systems that support the use of Neighborhood Electric Vehicles (NEV).
    - COS-P1.7 New commercial and institutional development projects shall provide prioritized parking for electric vehicles, hybrid vehicles, alternative fuel vehicles and carpools.
- Goal COS-2 Promote green building, planning and business.
    - COS-P2.1 County staff shall work cooperatively with the municipalities to ensure consistent standards for green building codes and other methods to reduce greenhouse gas emissions throughout the county.
    - COS-P2.2 New development shall comply with Green Building Standards adopted by the California Building Standards Commission at the time of building permit application, including requirements about low- or no-toxicity building materials.
    - COS-P2.3 All new County buildings and major renovations designed for public access and/or primary workspace shall meet, at a minimum, LEED-Silver or equivalent and the County shall use these buildings to demonstrate green building practices to builders, developers, homeowners and others. Minor buildings of an accessory nature that are not used as public spaces and that do not serve as a primary work space are not required to meet LEED-Silver or equivalent, but shall implement practical building design, construction, and maintenance solutions as set forth under the LEED rating system or equivalent.
    - COS-P2.4 All new subdivisions and developments should meet green planning standards such as LEED for Neighborhood Design.
- Goal COS-5 Minimize air pollutant emissions.
    - COS-P5.1 Air quality planning efforts shall be coordinated with local, regional and State agencies, and shall encourage community participation in air quality planning.
    - COS-P5.2 Developers shall implement best available mitigation measures to reduce air pollutant emissions associated with the construction and operation of development projects.*
    - COS-P5.3 Only EPA Phase II certified wood burning or equivalent devices maybe installed in any residential projects.
    - COS-P5.4 Stationary air pollutant emission sources, such as factories, shall be located more than 500 feet and/or downwind from residential areas and other sensitive receptors.*
    - COS-P5.5 Residential developments and other projects with sensitive receptors shall be located more than 500 feet from stationary air pollutant sources. Residential developments and other projects with sensitive receptors (e.g. housing, schools, child

care centers, playgrounds, hospitals, and senior centers) that are located within 500 feet of a high-volume roadway that carries over 50,000 vehicles per day shall incorporate feasible mitigation measures to protect sensitive receptors from harmful concentrations of air pollutants, as recommended in the California Air Resources Board's (CARB's) Air Quality and Land Use Handbook.*

- COS-P5.6 New sources of toxic air pollutants shall comply with the permitting requirements of the Butte County Air Quality Management District and Section 44300 et. seq. of the California Health and Safety Code.*
- COS-P5.7 The County shall cooperate with Butte County Air Quality Management District in efforts to reduce traffic-related emissions below levels that violate national ambient air quality standards in Butte County.
- COS-P5.8 The County shall encourage the Butte County Air Quality Management District to work in partnership with fire managers to balance natural resource needs (e.g. prescribed burning) with air quality needs.

5.3.2.3 EXISTING CONDITIONS

Sacramento Valley Air Basin

CARB has delineated the jurisdiction of regional air basins and local air districts throughout the state. Butte County is in the Sacramento Valley Air Basin (SVAB), which is the northern half of California's 400-mile-long Great Central Valley. The SVAB encompasses approximately 14,994 square miles with a largely flat valley floor (excepting the Sutter Buttes); is about 200 miles long and up to 150 miles wide; and is bordered on its east by the Sierra Nevada, on the north by the Cascade Range, and on the west by the Coast range (BCAQMD 2014).

The SVAB, containing 11 counties and some 2 million people, is divided into two air quality planning areas based on the amount of pollutant transport from one area to the other and the level of emissions within each. Butte County is in the Northern Sacramento Valley Air Basin (NSVAB) of the SVAB. The NSVAB is composed of Butte, Colusa, Glenn, Shasta, Sutter, Tehama, and Yuba Counties.

Emissions from the urbanized portion of the basin (Sacramento, Yolo, Solano, and Placer Counties) dominate the emission inventory for the SVAB, and on-road motor vehicles are the primary source of emissions in the Sacramento metropolitan area. Though pollutant concentrations have generally declined over the years, additional emission reductions will be needed to attain the State and national ambient air quality standards in the SVAB.

Air pollutants are not confined by jurisdictional boundaries but disperse through the atmosphere. For example, depending upon the time of year and meteorological conditions, a significant share of Butte County's air pollutants may come from the Sacramento metropolitan area, which, in turn, may receive a share of its air pollutants from the San Francisco Bay Area or the San Joaquin Valley (BCAQMD 2014).

Regional Climate and Meteorology

Seasonal weather patterns have a significant effect on regional and local air quality. The Sacramento Valley and Butte County have a Mediterranean climate, characterized by hot, dry summers and cool, wet winters. Winter weather is governed by cyclonic storms from the North Pacific, and summer weather is typically subject to a high-pressure cell that deflects storms from the region.

In Butte County, winters are generally mild, with daytime average temperatures in the low 50s and nighttime temperatures in the upper 30s. Temperatures range from an average January low of approximately 36°F to an average July high of approximately 96°F, although periodic lower and higher temperatures are common. Rainfall between October and May averages about 26 inches but varies considerably year to year. Heavy snowfall often occurs in the northeastern, mountainous portion of the county. Periodic rainstorms contrast with occasional stagnant weather and thick ground or "tule" fog in the moister, flatter parts of the valley. Winter winds generally come from the south, although north winds also occur.

Diminished air quality in Butte County largely results from local air pollution sources, transport of pollutants into the area from the south, the NSVAB topography, prevailing wind patterns, and certain inversion conditions that differ with the season. During the summer, sinking air forms a "lid" over the region, confining pollution within a shallow layer near the ground that leads to photochemical smog and visibility problems. During winter nights, air near the ground cools while the air above remains relatively warm, resulting in little air movement and localized pollution "hot spots" near emission sources. Carbon monoxide, nitrogen oxides, particulate matters, and lead particulate concentrations tend to elevate during winter inversion conditions when little air movement may persist for weeks.

As a result, high levels of particulate matter (primarily $PM_{2.5}$) and ground-level ozone are the pollutants of most concern to the NSVAB Districts. Ground-level ozone, the principal component of smog, forms when VOC and NO_X—together known as ozone precursor pollutants—react in strong sunlight. Ozone levels tend to be highest in Butte County during late spring through early fall, when sunlight is strong and constant and emissions of the precursor pollutants are highest (BCAQMD 2014).

Ambient Air Quality Conditions

CARB, in cooperation with BCAQMD and other air districts, monitors air quality throughout the SVAB. In Butte County, CARB monitors air quality at the following stations: Chico (East Avenue); Paradise (4405 Airport Road and Paradise Theater); and Gridley (Cowee Avenue). The Paradise Theater and Gridley Cowee Avenue monitoring sites do not have official air quality data on record. The Paradise 4405 Airport Road site has data for ozone, and the Chico East Avenue site has data for ozone, CO, NO_2, and PM (BCAQMD 2014). Data from the Chico East Avenue site and the Paradise Airport monitoring stations are shown in Table 5.3-4, *Ambient Air Quality Monitoring Data*, for the last three available years.

TABLE 5.3-4 AMBIENT AIR QUALITY MONITORING DATA

Pollutant Standards	Chico			Paradise Airport Road		
	2019	2020	2021	2019	2020	2021
Ozone						
State 1-Hour ≥ 0.09 ppm	0	1	0	0	2	0
State 8-hour ≥ 0.070 ppm	0	1	0	0	11	10
Federal 8-hour ≥ 0.070 ppm	0	1	0	0	10	9
Maximum 1-Hour Conc. (ppm)	0.072	0.097	0.078	0.075	0.110	0.093
Maximum 8-Hour Conc. (ppm)	0.064	0.083	0.069	0.070	0.098	0.079
Nitrogen Dioxide (NO_2)						
State 1-Hour ≥ 0.18 (ppm)	0	0	0	n/a	n/a	n/a
Federal 1-Hour ≥ 0.100 (ppm)	0	0	0	n/a	n/a	n/a
Maximum 1-Hour Conc. (ppb)	0.0421	0.0334	0.0318	n/a	n/a	n/a
Particulate Matter (PM_{10})						
State 24-Hour ≥ 50 µg/m^3	4	53	33	n/a	n/a	n/a
Federal 24-Hour ≥ 150 µg/m^3	3	8	0	n/a	n/a	n/a
Maximum 24-Hour Conc. (µg/m^3)	55.7	391.3	130.3	n/a	n/a	n/a
Particulate Matter ($PM_{2.5}$)						
Federal 24-Hour ≥ 35 µg/m^3	0	33	13	n/a	n/a	n/a
Maximum 24-Hour Conc. (µg/m^3)	34.6	329.3	102.7	n/a	n/a	n/a

Source: CARB 2022b.

Notes: ppm = parts per million; ppb = parts per billion; µg/m^3 = micrograms per cubic meter; n/a = Not Available
Data may include exceptional events (e.g., wildfires).

Attainment Status and Air Quality Planning

If monitored pollutant concentrations meet State or federal standards over a designated period of time, the area is classified "attainment" for that pollutant. If monitored pollutant concentrations violate the standards, the area is considered "nonattainment" for that pollutant. If data are insufficient to determine whether a pollutant is violating the standard, the area is designated "unclassified." Attainment status for various pollutants is summarized for the region in Table 5.3-5*, State and Federal Attainment Designations for Butte County*.

TABLE 5.3-5 STATE AND FEDERAL ATTAINMENT DESIGNATIONS FOR BUTTE COUNTY

Pollutant	Federal Standards	State Standards
1-hour ozone	No Standard[1]	Nonattainment
8-hour ozone	Nonattainment	Nonattainment
Carbon monoxide (CO)	Attainment	Attainment
Nitrogen dioxide (NO_2)	Attainment	Attainment
Sulfur dioxide	Attainment	Attainment
24-hour Inhalable particulate matter (PM_{10})	Attainment	Nonattainment
24-hour Inhalable particulate matter ($PM_{2.5}$)	Attainment	No Standard
Annual Inhalable particulate matter (PM_{10})	No Standard	Attainment
Annual Inhalable particulate matter ($PM_{2.5}$)	Attainment	Nonattainment

Source: BCAQMD 2018.
Notes: n/a = not applicable.
[1] The federal ozone 1-hour standard was revoked by the EPA and is no longer applicable for federal standards.

Existing Air Quality Inventory

Butte County consists of commercial, retail, industrial, and institutional land uses and single- and multifamily residences. These uses currently generate criteria air pollutant emissions from natural gas use for energy, heating, and cooking; vehicle trips associated with each land use; and area sources such as landscaping equipment and consumer cleaning products.[1] Table 5.3-6*, 2019 Butte County Criteria Air Pollutant Emissions Inventory,* identifies the existing criteria air pollutant emissions inventory for Butte County using emission rates for year 2019. The inventory is based on existing land uses in Butte County and represents the calculated emissions currently generated by existing land uses.

TABLE 5.3-6 2019 BUTTE COUNTY CRITERIA AIR POLLUTANT EMISSIONS INVENTORY

	Existing Criteria Air Pollutant Emissions (pounds per day)		
Source Type	VOC	NO_X	PM_{10}
Transportation[1]	200	1,547	31
Energy (natural gas and propane)[2]	173	373	24
Offroad Equipment[3]	624	3,754	217
Consumer Products[4]	1,196	N/A	N/A
Total Maximum Daily	**2,193**	**5,674**	**272**

[1] Based on calendar year 2019 emissions data from EMFAC2021, Version 1.0.2, and daily VMT provided by Fehr & Peers. Transportation sector includes the full trip length for internal-internal trips and 50 percent trip length for external-internal/internal-external trips.

[2] Based on natural gas and propane consumption data unitized for the Butte County 2021 Climate Action Plan.

[3] Based on offroad equipment emissions data from OFFROAD2021, Version 1.0.2., and include emissions from the following equipment category: Agricultural, Airport Ground Support, Construction and Mining, Forestry, Oil Drilling, Pleasure Craft, Locomotive, Recreational, and Transport Refrigeration Unit.

[4] Based on CalEEMod, Version 2022.1 User's Guide methodology utilized to calculate VOC emissions from use of household consumer cleaning products.

[1] Emissions from permitted sources are excluded from the existing emissions inventory because the reductions associated with the Industrial sector are regulated separately by BCAQMD and are not under the jurisdiction of Butte County.

5.3.3 STANDARDS OF SIGNIFICANCE

The proposed project would result in a significant air quality impact if it would:

1. Conflict with or obstruct implementation of the applicable air quality plan.
2. During construction, result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard.
3. During operation, result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or State ambient air quality standard.
4. During construction, expose sensitive receptors to substantial pollutant concentrations.
5. During operation, expose sensitive receptors to substantial pollutant concentrations.
6. Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people.
7. In combination with past, present, and reasonably foreseeable projects, result in cumulative impacts with respect to air quality.

5.3.3.1 BUTTE COUNTY AIR QUALITY MANAGEMENT DISTRICT THRESHOLDS

The analysis of the project's air quality impacts follows the guidance and methodologies and utilizes the significance thresholds in the BCAQMD *CEQA Air Quality Handbook* (Handbook) (BCAQMD 2014).

Regional Significance Thresholds

The BCAQMD Handbook established the regional significance thresholds for operation and construction shown in Table 5.3-7, *BCAQMD Regional Significance Thresholds*. Per the BCAQMD Handbook, the significance thresholds are derived from District Rule 430, which in turn is based on the State ambient air quality standards. Projects that do not exceed the regional significance thresholds may be assumed to have a less than significant impact in regard to a cumulatively considerable net increase of any criteria pollutant for which the region is nonattainment (BCAQMD 2014).

TABLE 5.3-7 BCAQMD REGIONAL SIGNIFICANCE THRESHOLDS

	Construction		Operational
Air Pollutant	Daily (Pounds Per Day)	Annual (Tons Per Year)	Daily (Pounds Per Day)
Reactive Organic Gases (ROG)	137	4.5	25
Nitrogen Oxides (NO_X)	137	4.5	25
Particulates (PM_{10})	80	n/a	80

Source: BCAQMD 2014.
Notes: N/A = Not Available.

If projects exceed the emissions in Table 5.3-7, emissions would cumulatively contribute to the nonattainment status and would contribute to elevating health effects associated to these criteria air pollutants. Known health effects related to ozone include worsening of bronchitis, asthma, and emphysema and a decrease in lung function. Health effects associated with particulate matter include premature death of people with heart or lung disease, nonfatal heart attacks, irregular heartbeat, decreased lung function, and increased respiratory symptoms. Reducing emissions would further contribute to reducing possible health effects related to criteria air pollutants.

However, for projects that exceed the emissions in Table 5.3-7, it is speculative to determine how exceeding the regional thresholds would affect the number of days the region is in nonattainment since mass emissions are not correlated with concentrations of emissions or how many additional individuals in the air basin would be affected by the health effects cited above. The BCAQMD is the primary agency responsible for ensuring the health and welfare of sensitive individuals to elevated concentrations of air quality in its jurisdiction within SVAB, and at the present time, it has not provided methodology to assess the specific correlation between mass emissions generated and the effect on health in order to address the issue raised in *Sierra Club v. County of Fresno (Friant Ranch, L.P.)* (2018) 6 Cal.5th 502, Case No. S21978 (*Friant Ranch*).

Ozone concentrations depend on a variety of complex factors, including the presence of sunlight and precursor pollutants, natural topography, nearby structures that cause building downwash, atmospheric stability, and wind patterns. Because of the complexities of predicting ground-level ozone concentrations in relation to the National and California AAQS, it is not possible to link health risks to the magnitude of emissions exceeding the significance thresholds. To achieve the health-based standards established by the EPA, the air districts prepare air quality management plans that details regional programs to attain the AAQS. However, if a project in Butte County exceeds the regional significance thresholds, the project could contribute to an increase in health effects in the basin until the attainment standards are met in the SVAB.

Community Health Risk

The BCAQMD recommends the following health risk impact significance thresholds for TACs and $PM_{2.5}$ generated from project-related construction and operational phase activities.

Project Level

Project-level emissions of TACs or $PM_{2.5}$ from individual sources that exceed any of the thresholds listed here are considered a potentially significant community health risk:

- An excess cancer risk level of more than 10 in one million, or a noncancer (i.e., chronic or acute) hazard index greater than 1.0 would be a significant project contribution.
- An incremental increase of greater than 0.3 micrograms per cubic meter ($\mu g/m^3$) annual average $PM_{2.5}$ from a single source would be a significant project contribution (BCAQMD 2014).

Cumulative

Cumulative sources represent the combined total risk values of each of the individual sources within the 1,000-foot evaluation zone. A project would have a cumulatively considerable impact if the aggregate total of all past, present, and foreseeable future sources within a 1,000-foot radius from the fence line of a source or location of a receptor, plus the contribution from the project, exceeds any of the following:

- An excess cancer risk level of more than 10 in one million or a chronic noncancer hazard index (from all local sources) greater than 1.0.
- 0.8 µg/m^3 annual average $PM_{2.5}$ (BCAQMD 2014).

Odors

Odor impacts associated with a proposed project would be considered significant if the project has the potential to frequently expose members of the public to objectionable odors. Due to the subjective nature of odor impacts, BCAQMD does not provide quantitative or formulaic methodologies to determine if potential odors would have a significant impact. However, because potential significant odor impacts are generally related to the intensity with distance from a source, BCAQMD identified screening distances for various odor sources as shown in Table 5.3-8, *BCAQMD Screening Levels for Potential Odor Sources*. For new odor sources that would be developed and sited near existing receptors within the screening distances, an information request and analysis should be made and based on a review of odor complaints for similar facilities. Additionally, the significance determination should be assessed on a case-by-case basis in consideration of any relevant information about the source (e.g., nature of the odor) and the setting (e.g., local meteorology, wind direction, etc.).

TABLE 5.3-8 BCAQMD SCREENING LEVELS FOR POTENTIAL ODOR SOURCES

Land Use/Type of Operation	Screening Distance
Wastewater Treatment Plan	2 miles
Wastewater Pumping Facilities	1 mile
Sanitary Landfill	1 mile
Transfer Station	1 mile
Composting Facility	1 mile
Petroleum Refinery	2 miles
Asphalt Batch Plant	1 mile
Chemical Manufacturing	1 mile
Fiberglass Manufacturing	1 mile
Painting/Coating Operations	1 mile
Rendering Plant	4 miles
Coffee Roaster	1 mile
Food Processing Facility	1 mile
Feed Lot/ Dairy	1 mile
Green Waste and Recycling Operations	2 miles
Metal Smelting Plants	1 mile

Source: BCAQMD 2014.

For a project locating near an existing source of odors, in *California Building Industry Association v. Bay Area Air Quality Management District* (*CBIA vs BAAQMD*), the California Supreme Court ruled that CEQA generally does not require an evaluation of impacts of the environment on a project unless a project will exacerbate an existing environmental hazard. As shown in Table 5.3-8, sensitive receptors such as residential, commercial, office, and institutional uses (such as the hospital land uses) would not be the types of land uses that are associated with generating substantial odors and would not be anticipated to exacerbate existing odor impacts. Thus, evaluation of this scenario is not considered for purposes of this analysis.

Air Quality Plan Consistency

In general, a project conflicts with or obstructs implementation of the applicable attainment plan if it would result in or induce growth in population, employment, land use, or regional VMT that is inconsistent with the growth assumptions (and therefore the emission projection) in the applicable attainment plan (BCAQMD 2014).

5.3.1 PROPOSED GENERAL PLAN POLICIES

The following are relevant policies and actions of the General Plan Update that may contribute to the reduction of air quality pollutants as a result of implementation of the proposed project.

Land Use Element

- LU-P3.1: The County shall encourage housing that meets the needs of the local workforce, jobs that are suitable for local residents, and programs that reduce commuting and improve opportunities to live and work in the same community.
- LU-P3.3: Newly-developed neighborhoods shall include parks and recreation facilities. Sidewalks, bike paths, and other routes shall provide circulation to surrounding areas.
- LU-P4.3: Generally, higher density housing shall be along collector and arterial streets and within easy walking distance of public facilities.
- LU-P5.3: New industrial uses shall be designed to avoid adverse impacts to adjacent uses, particularly residential neighborhoods, with respect to, but not limited to, noise, dust and vibration, water quality, air quality, agricultural resources, and biological resources.
- LU-P8.4: New industrial development shall be encouraged to locate in existing industrial areas until existing industrial areas have been fully utilized.
- LU-P8.5: Stores providing goods and services to support daily life in neighborhoods should be within walking distance to the majority of neighborhoods.
- LU-P8.6: The County shall encourage the construction of housing near employment centers, along with additional employment-generating uses near areas that are primarily residential.
- LU-P8.7: Land use patterns and development shall support the State's ability to achieve its vehicle miles traveled (VMT) and greenhouse gas (GHG) reduction goals, and the County's own VMT thresholds of significance.

Environmental Justice Element

- EJ-P2.1: The County shall prioritize improvements to bikeways and sidewalks that are in Communities of Opportunity to make active transportation more accessible, user friendly, and safer in these communities.
- EJ-P2.2: Where supported by the community, street lighting for public safety shall be provided, prioritizing implementation in Communities of Opportunity, particularly at parks, transit stops, bike and pedestrian paths, and along commercial corridors.
- EJ-P2.3: The County shall encourage development in Communities of Opportunity that combines employment, housing, and services close to transit facilities.
- EJ-P2.4: The County shall work with transit providers to expand the hours of transit operation, operational boundaries, convenience, and quality of transit services that connect Communities of Opportunity with educational and economic opportunities, medical services, and other needed goods and services.
- EJ-P2.5: The County shall encourage transit providers to offer small or less frequent buses on routes with low passenger demand and connections between unincorporated and incorporated bus routes, with a focus on bridging service gaps in Communities of Opportunity.
- EJ-P2.6: The County shall provide support to carpooling and vanpooling programs, particularly among Communities of Opportunity, such as by assisting with outreach and program facilitation.
- EJ-P5.4: The County shall support efforts to retrofit existing housing units in Communities of Opportunity with improvements that reduce indoor air and noise pollution and improve energy efficiency.
- EJ-P8.3: The County supports the development of high-quality, local jobs within and near Communities of Opportunity to reduce long commutes and resultant vehicle emissions.

Conservation and Open Space Element

- COS-P1.7: New development projects shall provide electric vehicle charging stations and prioritized parking for electric vehicles, hybrid vehicles, alternative fuel vehicles and carpools.
- COS-P2.3: All new County buildings and major renovations designed for public access and/or primary workspace shall meet, at a minimum, LEED-Silver or equivalent and the County shall use these buildings to demonstrate green building practices to builders, developers, homeowners, and others. Minor buildings of an accessory nature that are not used as public spaces and that do not serve as a primary workspace are not required to meet LEED-Silver or equivalent, but shall implement practical building design, construction, and maintenance solutions as set forth under the LEED rating system or equivalent.
- COS-P2.4: All new subdivisions and developments should meet green planning standards such as LEED for Neighborhood Design.
- COS-P2.5: The County shall work with property owners and property management groups to increase overall building electrification and adoption of modern, efficient appliances in residential rental properties.

- COS-P5.1: Air quality planning efforts shall be coordinated with local, regional, and State agencies, and shall encourage community participation in air quality planning.
- COS-P5.2: Developers shall implement best available mitigation measures to reduce air pollutant emissions associated with the construction and operation of development projects.
- COS-P5.3: Only EPA Phase II certified wood burning, or equivalent devices maybe installed in any residential projects.
- COS-P5.4: Stationary air pollutant emission sources, such as factories, shall be located more than 500 feet and/or downwind from residential areas and other sensitive receptors.
- COS-P5.5: Residential developments and other projects with sensitive receptors shall be located more than 500 feet from stationary air pollutant sources. Residential developments and other projects with sensitive receptors (e.g. housing, schools, child care centers, playgrounds, hospitals, and senior centers) that are located within 500 feet of a high-volume roadway that carries over 50,000 vehicles per day shall incorporate feasible mitigation measures to protect sensitive receptors from harmful concentrations of air pollutants, as recommended in the California Air Resources Board's (CARB's) Air Quality and Land Use Handbook.
- COS-P5.6: New sources of toxic air pollutants shall comply with the permitting requirements of the Butte County Air Quality Management District and Section 44300 et. seq. of the California Health and Safety Code.
- COS-P5.7: The County shall cooperate with Butte County Air Quality Management District in efforts to reduce traffic-related emissions below levels that violate national ambient air quality standards in Butte County.
- COS-P5.8: The County shall encourage the Butte County Air Quality Management District to work in partnership with fire managers to balance natural resource needs (e.g., prescribed burning) with air quality needs.

Circulation Element

- CIR-P2.1: Carpooling shall be encouraged at major job and activity centers by providing information on how to participate in available private and public programs.
- CIR-P2.2: Trip reduction among County employees shall be encouraged. Specific measures to encourage trip reduction could include providing subsidies, bicycle facilities, alternative work schedules, ridesharing, telecommuting and work-at-home programs, employee education, and preferential parking for carpools/vanpools.
- CIR-P2.3: Home occupations shall be encouraged through streamlined application processes that are appropriate to the intensity and proposed uses of the home business.
- CIR-P2.4: Employers shall be encouraged to provide transit subsidies, bicycle facilities, alternative work schedules, ridesharing, telecommuting and work-at-home programs, employee education and preferential parking for carpools/vanpools.
- CIR-P2.5: Transportation corridors for renewable energy transmission and for new transit lines shall be preserved.

- CIR-P2.6: The County shall incorporate "Complete Streets" policies that are designed and built to accommodate pedestrians, bicyclists, and transit users.
- CIR-P3.1: The County supports improved connections to other regional transportation services, such as rail and regional/national bus lines, to connect Butte County communities with each other.
- CIR-P3.2: A continuous, integrated, and accessible pedestrian network shall be provided in urbanized areas to encourage walking as a viable transportation mode and as a form of recreation and exercise.
- CIR-P3.3: Travel modes shall be interconnected to form an integrated, coordinated, and balanced multimodal transportation system.
- CIR-P3.4: New development projects shall provide adequate pedestrian, bicycle, and multiuse facilities in a way that integrates circulation and recreational use, commensurate with the impacts of the project, local and regional plans, and consistent with surrounding development.
- CIR-P3.5: New neighborhoods shall provide bike and pedestrian connectivity between streets.
- CIR-P3.6: Arterial and collector streets shall be designed to enhance the integrity and cohesiveness of urban neighborhoods.
- CIR-P3.7: Major residential development projects shall be designed with interconnected collector street patterns and short block lengths. Cul-de-sac and dead-end streets shall conform to County design standards.
- CIR-P3.8: Public facilities shall be located and designed to allow for convenient access from public transit and/or bicycle and pedestrian facilities.
- CIR-P4.1: The County supports public transit as a viable and attractive alternative to the use of single occupant motor vehicles.
- CIR-P4.2: The County supports improved public transit service to be determined through the public process to identify unmet needs and prioritize feasible solutions. Potential improvements could include serving an expanded geographic area, more frequent buses at key times of the day, and improved transit amenities such as bus shelters.
- CIR-P4.3: The County supports public transportation programs that promote access to shopping, employment, education, health care, and recreation.
- CIR-P4.4: The County encourages the Butte County Association of Governments to provide shuttles from local transit stations to special event centers.
- CIR-P4.5: The County continues to support local Amtrak passenger services.
- CIR-P4.6: New development projects in areas served by existing or planned transit shall provide fixed transit facilities such as bus shelters and pullouts, according to expected demand and in coordination with Butte Regional Transit.
- CIR-P5.1: Bicycle facilities shall be developed in accordance with the County's adopted Bicycle Master Plan.

- CIR-P5.2: New bicycle routes and paths shall create a bicycle environment that minimizes harm when people ride.
- CIR-P5.3: The bicycle system shall be integrated with other transportation modes by connecting bicycle routes and transit stops, providing secure bicycle parking facilities and supporting efforts to expand accommodation of bicycles aboard buses.
- CIR-P5.4: Transportation service providers shall be encouraged to incorporate bicycle storage facilities into bus stops and rail stations.
- CIR-P5.5: Construction or expansion of major arterials shall incorporate Class II bicycle facilities whenever feasible. Class III Bike routes will be considered where appropriate.
- CIR-P5.6: Residential development projects shall incorporate internal circulation networks that encourage bicycle use and that connect to the external bicycle circulation system.
- CIR-P5.7: Owners of apartment complexes and major commercial, office, industrial, and educational sites shall provide plentiful, convenient, and centrally located bicycle parking facilities.
- CIR-P5.8: All County facilities and park-and-ride lots shall provide appropriate bicycle amenities, including bicycle racks and storage facilities.

5.3.2 IMPACT DISCUSSION

5.3.2.1 METHODOLOGY

Emissions Sectors

This air quality evaluation was prepared in accordance with the requirements of CEQA to determine if significant air quality impacts are likely to occur in conjunction with future development that would be accommodated by the General Plan Update. The BCAQMD Handbook provides local governments with guidance for analyzing and mitigating air quality impacts and was used in this analysis. Where applicable, assumptions and data from the Butte County 2021 Climate Action Plan (CAP) were utilized (Butte County 2021). The General Plan Update criteria air pollutant emissions inventory includes the following sectors:

- Transportation: Transportation emissions forecasts were modeled using year 2019 and year 2040 vehicle emissions data from CARB's EMFAC2021, version 1.0.2, and VMT data utilized for the Butte County 2021 CAP. VMT data is based on the Origin Destination (OD) Method and on the recommendations of CARB's Regional Targets Advisory Committee (RTAC) created under SB 375. For accounting purposes, there are three types of trips:
    - Internal-Internal. Vehicle trips that originated and terminated within the county (Internal-Internal, I-I). Using the accounting rules established by RTAC, 100 percent of the length of these trips and their emissions are attributed to the county.
    - Internal-External/External-Internal. Vehicle trips that either originated or terminated (but not both) in the county (Internal-External or External-Internal, I-X and X-I). Using the accounting rules established by RTAC, 50 percent of the trip length for these trips is attributed to the County.

- **External-External.** Vehicle trips that neither originated nor terminated in the county. These trips are commonly called pass-through trips (External-External, X-X). Using the accounting rules established by RTAC, these trips are not counted toward the county's VMT or emissions.

- **Energy:** Emissions associated with natural gas use for residential and nonresidential land uses and propane use for residential land uses in the county were modeled based on energy use data compiled as part of the Butte County 2021 CAP (see Appendix 5.3-1).
- **Off-Road Equipment:** Emission rates from CARB's OFFROAD2021, version 1.0.2, were used to estimate criteria air pollutant emissions from off-road equipment. OFFROAD is a database of equipment use and associated emissions for each county compiled by CARB.
- **Area Sources:** Area sources are based on the emission factors from the California Emissions Estimator Model (CalEEMod), Version 2022.1, for emissions generated from use of consumer products and cleaning supplies.

Impacts of the Environment on a Project

The BCAQMD Handbook includes methodology for jurisdictions to evaluate the potential impacts from placing sensitive receptors proximate to major air pollutant sources. For assessing community risk and hazards for siting a new receptor, sources within a 1,000-foot radius of a project site are typically considered.

Buildout under the proposed project could result in siting sensitive uses (e.g., residential) near sources of emissions (e.g., freeways, industrial uses, etc.). Developing new sensitive land uses near sources of emissions could expose persons that inhabit these sensitive land uses to potential air-quality-related impacts. However, the purpose of this environmental evaluation is to identify the significant effects of the proposed project on the environment, not the significant effects of the environment on the proposed project (*CBIA vs BAAQMD)*. Thus, CEQA does not require analysis of the potential environmental effects from siting sensitive receptors near existing sources, and this type of analysis is not provided below in the Impact Analysis section.

While it is generally not within the purview of CEQA to analyze impacts of the environment on a project, the proposed project includes policies that prioritize the health of Butte County residents through enforcement of County codes and incorporation of design features to minimize air quality impacts and to achieve appropriate health standards.

AQ-1 Implementation of the General Plan Update and URCP would conflict with or obstruct implementation of the applicable air quality plan.

The following evaluates consistency of the General Plan Update and URCP to the AQAP.

General Plan 2040

CEQA requires that projects be evaluated for consistency with the applicable air quality management plan(s). A consistency determination plays an important role in local agency project review by linking local

planning and individual projects to the air quality plans. It fulfills the CEQA goal of informing decision makers of the environmental effects of a project under consideration at a stage early enough to ensure that air quality concerns are fully addressed. It also provides the local agency with ongoing information as to whether they are contributing to the clean air goals of the air quality plans. Typically, a project is deemed inconsistent with air quality plans if it would result in population, employment, land use, or VMT that exceeds the growth estimates assumed in the applicable air quality plan, since such exceedances would hinder achievement of Federal and State air quality standards (BCAQMD 2014).

Table 5.3-9, *Comparison of the Change in Population and VMT in Butte County*, shows the project year 2040 population growth and VMT assumptions of the 2021 AQAP compared to the growth and VMT projections resulting from implementation of the General Plan Update. As shown in the table, the projected population growth of 267,791 under the General Plan Update for year 2040 would be higher than the population growth of 260,890 assumed in the 2021 AQAP. However, the projected daily VMT of 5,620,000 miles per day under the General Plan Update would be less than the projected daily VMT of 7,102,000 miles per day assumed in the 2021 AQAP. Similarly, the daily VMT per person of 20.99 miles per person per day (mi/person/day) under the General Plan Update would be smaller than the 27.22 mi/person/day rate assumed in the 2021 AQAP. Overall, daily VMT and daily VMT per person projections for year 2040 under the General Plan Update would be less than the projections assumed in the 2021 AQAP, and the projected population growth would be higher. And because the population projection is higher for the General Plan Update, growth under the General Plan Update would be inconsistent with growth assumed for the 2021 AQAP, and impacts are considered potentially significant.

TABLE 5.3-9 COMPARISON OF THE CHANGE IN POPULATION AND VMT IN BUTTE COUNTY

Category	2021 AQAP Year 2040 Projection[1]	General Plan Update Year 2040 Projection[1]	Net Difference	Percent Difference (%)
Population	260,890	267,791	6,901	3%
Daily VMT	7,102,000	5,620,000	(1,482,000)	(21%)
VMT/person	27.22	20.99	(6.23)	(23%)

Source: SVABCC 2021.
Notes: ( )= negative value.
[1] Data presented are for all of Butte County, i.e., both incorporated and unincorporated areas.

Level of Significance Before Mitigation: AQ-1 would be potentially significant.

Impact AQ-1a: Implementation of the General Plan Update would contribute to population growth that would exceed the Butte County population growth assumed in the 2021 AQAP.

Mitigation Measures

Implement Mitigation Measures AQ-1 and AQ-2 to further reduce criteria air pollutant emissions.

Level of Significance After Mitigation: AQ-1 would be significant and unavoidable. The various goals, policies, and actions of the General Plan Update; applicable BCAQMD rules and regulations; and Mitigation Measure AQ-1 would contribute to reducing long-term criteria air pollutant emissions to the extent feasible.

However, the population assumptions of the AQAP would continue to be exceeded until the AQAP is updated and accounts for the additional population growth associated with the General Plan Update. Therefore, in regard to the General Plan Update, the impact is considered significant and unavoidable.

Upper Ridge Community Plan

As discussed in Chapter 3, *Project Description*, the URCP would increase development potential in the Upper Ridge community by redesignating 28 parcels from Retail and Office to Mixed-use land uses in the Old Magalia and Magalia Center neighborhoods. Potential future development of up to 851 new dwelling units in the Upper Ridge community could increase the number of residents by 1,915 residents. Furthermore, as discussed in Impact 5.14-1 of this DEIR, the General Plan Update land use model estimates a population of approximately 11,881 residents in the community of Magalia. When compared to the 2020 population of 10,635 residents, the addition of 1,915 new residents would exceed the projected population increase in the community. As discussed above, the year 2040 population projection for the entirety of Butte County with implementation of the General Plan Update would exceed the year 2040 population projection assumed by the 2021 AQAP. The URCP is within the General Plan Update planning area and would therefore also contribute to the overall increase in population projection for year 2040. Thus, the above AQAP consistency analysis prepared for the General Plan Update would also apply to the URCP. Therefore, the URCP would also be inconsistent with the 2021 AQAP and impacts are potentially significant.

Level of Significance Before Mitigation: AQ-1 would be potentially significant.

Impact AQ-1b: Implementation of the URCP would contribute to population growth that would exceed the Butte County population growth assumed in the 2021 AQAP.

Mitigation Measures

Implement Mitigation Measures AQ-1 and AQ-2 to further reduce criteria air pollutant emissions.

Level of Significance After Mitigation: AQ-1 would be significant and unavoidable. Implementation of Mitigation Measures AQ-1 and AQ-2 would contribute to reducing criteria air pollutant emissions to the extent feasible. However, the population assumptions of the AQAP would continue to be exceeded until the AQAP is updated and accounts for the additional population growth associated with the URCP. Therefore, the impact is considered significant and unavoidable.

AQ-2	Construction of the proposed project would result in a cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment under an applicable federal or state ambient air quality standard.

The following evaluates potential regional air quality impacts associated with construction of development projects accommodated by the General Plan Update and URCP.

General Plan 2040

Construction activities would temporarily increase VOC, NO_X, and PM_{10} regional emissions within the SVAB. The primary source of NO_X emissions is the operation of construction equipment. The primary sources of PM_{10} emissions are activities that disturb the soil, such as grading and excavation, road construction, and building demolition and construction. The primary sources of VOC emissions are the application of architectural coating and off-gas emissions associated with asphalt paving. A general discussion of health impacts associated with air pollutant emissions generated by construction activities is included under Section 5.3.2.1, *Air Pollutants of Concern*, of this DEIR.

Construction activities associated with the General Plan Update would occur over the buildout horizon of the plan, causing short-term emissions of criteria air pollutants. For the General Plan Update, which is a broad-based policy plan, it is not possible to determine whether the scale and phasing of individual projects would exceed the BCAQMD's short-term regional construction emissions thresholds. Overall, air quality emissions related to construction must be addressed on a project-by-project basis, and information regarding specific development projects, soil types, and the locations of receptors would be needed in order to quantify the level of impact associated with construction activity.

The Conservation and Open Space Element of the General Plan Update includes the following policy that would contribute to minimizing construction-related criteria air pollutant emissions:

- **COS-P5.2:** Developers shall implement best available mitigation measures to reduce air pollutant emissions associated with the construction and operation of development projects.

Furthermore, in addition to regulatory measures—e.g., BCAQMD Rule 205 for fugitive dust control and Rule 230 for architectural coatings—mitigation imposed at the project level may include extension of construction schedules and/or use of special equipment.

While individual projects accommodated under the General Plan Update may not exceed the BCAQMD regional significance thresholds, the scale of development activity associated with buildout of the General Plan Update would likely result in emissions that exceed the BCAQMD regional significance thresholds. In accordance with the BCAQMD methodology, emissions that exceed the regional significance thresholds would cumulatively contribute to the nonattainment designations of the SVAB. The SVAB is designated nonattainment for O_3 and particulate matter (PM_{10} and $PM_{2.5}$). Emissions of VOC and NO_X are precursors to the formation of O_3. In addition, NO_X is a precursor to the formation of particulate matter (PM_{10} and $PM_{2.5}$). Thus, the General Plan Update would cumulatively contribute to the nonattainment designations of the NSVAB for O_3 and particulate matter (PM_{10} and $PM_{2.5}$). Therefore, construction-related regional air quality impacts of developments that would be accommodated by the General Plan Update would be potentially significant.

Level of Significance Before Mitigation: AQ-2 would be potentially significant.

Impact AQ-2a: Construction activities associated with implementation of the General Plan Update could exceed the BCAQMD regional significance thresholds.

Mitigation Measures

Mitigation Measure AQ-1: Prior to discretionary approval by Butte County for development projects subject to CEQA (California Environmental Quality Act) review (i.e., non-exempt projects), project applicants shall prepare and submit a technical assessment evaluating potential project construction-related air quality impacts to the Butte County Planning Division for review and approval. The evaluation shall be prepared in conformance with Butte County Air Quality Management District (BCAQMD) methodology for assessing air quality impacts. If construction-related criteria air pollutants are determined to have the potential to exceed the BCAQMD-adopted thresholds of significance, Butte County shall require that applicants for new development projects incorporate mitigation measures to reduce air pollutant emissions during construction activities. These identified measures shall be incorporated into all appropriate construction documents (e.g., construction management plans) submitted to the County and shall be verified by the County's Planning Division. Mitigation measures to reduce construction-related emissions could include, but are not limited to:

- Using nontoxic soil stabilizers to reduce wind erosion.
- Applying water every four hours to active soil-disturbing activities.
- Tarping and/or maintaining a minimum of 24 inches of freeboard on trucks hauling dirt, sand, soil, or other loose materials.
- Using construction equipment rated by the United States Environmental Protection Agency as having Tier 4 Interim or higher exhaust emission limits, applicable for engines between 50 and 750 horsepower.
- Ensuring that construction equipment is properly serviced and maintained to the manufacturer's standards.
- Limiting nonessential idling of construction equipment to no more than five consecutive minutes.
- Posting signs in the designated queueing areas, entries, and jobs sites reminding drivers of the five-minute idling limit.
- Limiting onsite vehicle travel speeds on unpaved roads to 15 miles per hour.
- Installing wheel washers for all exiting trucks or wash off all trucks and equipment leaving the project area.
- Using electric-powered construction equipment where feasible.
- Using zero- or low-VOC paints for coating of architectural surfaces.

Level of Significance After Mitigation: Significant and unavoidable. Buildout of the General Plan Update would occur over a period of 18 years or longer. Construction activities associated with buildout of the General Plan Update could generate short-term emissions that exceed the BCAQMD'S significance thresholds during this time and cumulatively contribute to the nonattainment designations of the SVAB. Implementation of Mitigation Measure AQ-2a would reduce criteria air pollutant emissions from construction-related activities to the extent feasible. However, construction time frames and equipment for site-specific development projects are not available at this time and there is a potential for multiple development projects to be constructed at one time, resulting in significant construction-related emissions.

Therefore, despite adherence to Mitigation Measure AQ-1, Impact AQ-2a as it pertains to the General Plan Update would remain significant and unavoidable.

Upper Ridge Community Plan

The above analysis prepared for the General Plan Update regarding potential regional air quality impacts from construction activities would also apply to the URCP. Overall, construction-related regional air quality impacts associated with the land uses accommodated under the URCP are considered potentially significant.

Level of Significance Before Mitigation: AQ-2 would be potentially significant.

Impact AQ-2b: Construction activities associated with implementation of the URCP could exceed the BCAQMD regional significance thresholds.

Mitigation Measures

Implement Mitigation Measure AQ-1.

Level of Significance After Mitigation: Significant and unavoidable. Similar to the General Plan Update, implementation of Mitigation Measure AQ-1 would reduce criteria air pollutant emissions from construction-related activities to the extent feasible. However, because construction time frames and equipment for site-specific development projects are not available at this time and there is a potential for multiple development projects to be constructed at one time, construction activities associated with implementation of the URCP could result in significant construction-related emissions. Therefore, Impact AQ-2b would remain significant and unavoidable.

AQ-3	Operation of the proposed project would result in a cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment under an applicable federal or state ambient air quality standard.

The following evaluates potential regional air quality impacts associated with operation of development projects accommodated by the General Plan Update and URCP.

General Plan 2040

The General Plan Update guides growth and development in the county by designating land uses in the proposed land use map and through implementation of its goals and policies. New development would increase air pollutant emissions in the county and contribute to the overall emissions inventory in the SVAB. A general discussion of health impacts associated with air pollutant emissions generated by operational activities is included under Section 5.3.2.1, *Air Pollutants of Concern*.

Butte County Emissions Inventory

The emissions inventory for the county under the General Plan Update is shown in Table 5.3-10, *Butte County Horizon Year 2040 Regional Criteria Air Pollutant Emissions Inventory*. As shown in the table, implementation of the General Plan Update would result in an increase in VOC and NO_X emissions from existing conditions. This increase is based on the difference between existing land uses and land uses associated with buildout of the General Plan Update as well as an estimate of population and employment in the county in year 2040. Buildout of the General Plan Update would generate long-term emissions that exceed the daily BCAQMD threshold for VOC. Emissions of VOC is a precursor to the formation of O_3. Therefore, emissions of VOC that exceed the BCAQMD regional significance threshold would contribute to the O_3 nonattainment designation of the SVAB.

TABLE 5.3-10 BUTTE COUNTY HORIZON YEAR 2040 REGIONAL CRITERIA AIR POLLUTANT EMISSIONS INVENTORY

	Criteria Air Pollutant Emissions (pounds per day)		
Sector	VOC	NO_X	PM_{10}
Existing Land Uses – Year 2040			
Transportation[1]	29	336	7
Energy (natural gas and propane)[2]	173	373	24
Area – Offroad Equipment[3]	624	3,754	217
Area – Consumer Products[4]	1,196	N/A	N/A
Existing Land Uses Total	**2,022**	**4,463**	**248**
Proposed Land Use Plan – Horizon Year 2040			
Transportation[1]	37	410	9
Energy (propane and natural gas)[2]	180	299	18
Area – Offroad Equipment[3]	629	3,806	219
Area – Consumer Products[4]	1,785	N/A	N/A
Proposed Land Use Plan Total	**2,630**	**4,515**	**247**
Net Change in Emissions	608	52	(2)
BCAQMD Regional Significance Threshold	54	54	82
Significant?	**Yes**	**No**	**No**

[1] Based on calendar year 2040 emissions data from EMFAC2021, Version 1.0.2, and daily VMT provided by Fehr & Peers. Transportation sector includes the full trip length for internal-internal trips and 50 percent trip length for external-internal/internal-external trips.

[2] Based on natural gas and propane consumption data unitized for the Butte County 2021 Climate Action Plan.

[3] Based on calendar year 2019 offroad equipment emissions data from OFFROAD2021, Version 1.0.2., and adjusted to the household, employment, and population year 2040 projects under the General Plan Update. Include emissions from the following equipment category: Agricultural, Airport Ground Support, Construction and Mining, Forestry, Oil Drilling, Pleasure Craft, Locomotive, Recreational, and Transport Refrigeration Unit.

[4] Based on CalEEMod, Version 2020.4.0 User's Guide methodology utilized to calculate VOC emissions from use of household consumer cleaning products.

Implementation of the following General Plan Update policies and actions could contribute to reducing criteria air pollutant emissions from mobile sources by reducing single passenger vehicle trips and VMT, reducing vehicle idling, supporting the transition to low- and zero-emission vehicles, and increasing active and public transit infrastructure:

- COS-P1.7: New development projects shall provide electric vehicle charging stations and prioritized parking for electric vehicles, hybrid vehicles, alternative fuel vehicles and carpools.
- COS-A1.2: Continue to update the County program to replace County fleet vehicles with the lowest emission technology vehicles, wherever possible, including landscaping and other equipment.
- COS-A1.3: Consider the establishment of a motor vehicle emissions budget for County vehicles, including a plan to reduce motor vehicle emissions.
- COS-A1.4: Coordinate with the Butte County Air Quality Management District on anti-idling programs that will reduce idling by heavy duty vehicles.
- COS-A1.5: Cooperate with the school districts to develop school access plans that substantially reduce automobile trips to, and congestion surrounding, schools. Each District's School Access Plan could address necessary infrastructure improvements, potential funding sources, replacing older diesel buses with low or zero-emission vehicles, and mitigation fees to expand school bus service.
- COS-P5.7: The County shall cooperate with Butte County Air Quality Management District in efforts to reduce traffic-related emissions below levels that violate national ambient air quality standards in Butte County.
- LU-P3.1: The County shall encourage housing that meets the needs of the local workforce, jobs that are suitable for local residents, and programs that reduce commuting and improve opportunities to live and work in the same community.
- LU-P3.3: Newly-developed neighborhoods shall include parks and recreation facilities. Sidewalks, bike paths, and other routes shall provide circulation to surrounding areas.
- LU-P4.3: Generally, higher density housing shall be along collector and arterial streets and within easy walking distance of public facilities.
- LU-P8.5: Stores providing goods and services to support daily life in neighborhoods should be within walking distance to the majority of neighborhoods.
- LU-P8.6: The County shall encourage the construction of housing near employment centers, along with additional employment-generating uses near areas that are primarily residential.
- LU-P8.7: Land use patterns and development shall support the State's ability to achieve its vehicle miles traveled (VMT) and greenhouse gas (GHG) reduction goals, and the County's own VMT thresholds of significance.
- CIR-P2.1: Carpooling shall be encouraged at major job and activity centers by providing information on how to participate in available private and public programs.

- CIR-P2.2: Trip reduction among County employees shall be encouraged. Specific measures to encourage trip reduction could include providing subsidies, bicycle facilities, alternative work schedules, ridesharing, telecommuting and work-at-home programs, employee education, and preferential parking for carpools/vanpools.
- CIR-P2.3: Home occupations shall be encouraged through streamlined application processes that are appropriate to the intensity and proposed uses of the home business.
- CIR-P2.4: Employers shall be encouraged to provide transit subsidies, bicycle facilities, alternative work schedules, ridesharing, telecommuting and work-at-home programs, employee education and preferential parking for carpools/vanpools.
- CIR-P2.5: Transportation corridors for renewable energy transmission and for new transit lines shall be preserved.
- CIR-P2.6: The County shall incorporate "Complete Streets" policies that are designed and built to accommodate pedestrians, bicyclists, and transit users.
- CIR-A2.1: Prepare, adopt, and maintain a VMT environmental threshold and development project screening process.
- CIR-P3.1: The County supports improved connections to other regional transportation services, such as rail and regional/national bus lines, to connect Butte County communities with each other.
- CIR-P3.2: A continuous, integrated, and accessible pedestrian network shall be provided in urbanized areas to encourage walking as a viable transportation mode and as a form of recreation and exercise.
- CIR-P3.3: Travel modes shall be interconnected to form an integrated, coordinated, and balanced multimodal transportation system.
- CIR-P3.4: New development projects shall provide adequate pedestrian, bicycle, and multiuse facilities in a way that integrates circulation and recreational use, commensurate with the impacts of the project, local and regional plans, and consistent with surrounding development.
- CIR-P3.5: New neighborhoods shall provide bike and pedestrian connectivity between streets.
- CIR-P3.6: Arterial and collector streets shall be designed to enhance the integrity and cohesiveness of urban neighborhoods.
- CIR-P3.7: Major residential development projects shall be designed with interconnected collector street patterns and short block lengths. Cul-de-sac and dead-end streets shall conform to County design standards.
- CIR-P3.8: Public facilities shall be located and designed to allow for convenient access from public transit and/or bicycle and pedestrian facilities.
- CIR-A3.1: In conjunction with the Butte County Association of Governments, seek funding to develop a plan to support and promote rail service that will connect Butte County with other regions and connect Butte County communities with each other.

- CIR-P4.1: The County supports public transit as a viable and attractive alternative to the use of single occupant motor vehicles.
- CIR-P4.2: The County supports improved public transit service to be determined through the public process to identify unmet needs and prioritize feasible solutions. Potential improvements could include serving an expanded geographic area, more frequent buses at key times of the day, and improved transit amenities such as bus shelters.
- CIR-P4.3: The County supports public transportation programs that promote access to shopping, employment, education, health care, and recreation.
- CIR-P4.4: The County encourages the Butte County Association of Governments to provide shuttles from local transit stations to special event centers.
- CIR-P4.5: The County continues to support local Amtrak passenger services.
- CIR-P4.6: New development projects in areas served by existing or planned transit shall provide fixed transit facilities such as bus shelters and pullouts, according to expected demand and in coordination with Butte Regional Transit.
- CIR-A4.1: Support efforts by the Butte County Association of Governments to evaluate alternate sources of funding for public transit, such as advertising revenue from buses and bus shelters.
- CIR-P5.1: Bicycle facilities shall be developed in accordance with the County's adopted Bicycle Master Plan.
- CIR-P5.2: New bicycle routes and paths shall create a bicycle environment that minimizes harm when people ride.
- CIR-P5.3: The bicycle system shall be integrated with other transportation modes by connecting bicycle routes and transit stops, providing secure bicycle parking facilities and supporting efforts to expand accommodation of bicycles aboard buses.
- CIR-P5.4: Transportation service providers shall be encouraged to incorporate bicycle storage facilities into bus stops and rail stations.
- CIR-P5.5: Construction or expansion of major arterials shall incorporate Class II bicycle facilities whenever feasible. Class III Bike routes will be considered where appropriate.
- CIR-P5.6: Residential development projects shall incorporate internal circulation networks that encourage bicycle use and that connect to the external bicycle circulation system.
- CIR-P5.7: Owners of apartment complexes and major commercial, office, industrial, and educational sites shall provide plentiful, convenient, and centrally located bicycle parking facilities.
- CIR-P5.8: All County facilities and park-and-ride lots shall provide appropriate bicycle amenities, including bicycle racks and storage facilities.
- CIR-A5.1: Periodically update the Bicycle Master Plan.
- CIR-A5.2: Continue to utilize BCAG's GIS mapping database of current and proposed bicycle routes and facilities countywide.

- CIR-A5.3: Pursue sources of funding to improve and maintain the existing bicycle system and to plan and construct new bicycle facilities that encourage commuting and recreation.
- EJ-P2.1: The County shall prioritize improvements to bikeways and sidewalks that are in Communities of Opportunity to make active transportation more accessible, user friendly, and safer in these communities.
- EJ-P2.2: Where supported by the community, street lighting for public safety shall be provided, prioritizing implementation in Communities of Opportunity, particularly at parks, transit stops, bike and pedestrian paths, and along commercial corridors.
- EJ-P2.3: The County shall encourage development in Communities of Opportunity that combines employment, housing, and services close to transit facilities.
- EJ-P2.4: The County shall work with transit providers to expand the hours of transit operation, operational boundaries, convenience, and quality of transit services that connect Communities of Opportunity with educational and economic opportunities, medical services, and other needed goods and services.
- EJ-P2.5: The County shall encourage transit providers to offer small or less frequent buses on routes with low passenger demand and connections between unincorporated and incorporated bus routes, with a focus on bridging service gaps in Communities of Opportunity.
- EJ-P2.6: The County shall provide support to carpooling and vanpooling programs, particularly among Communities of Opportunity, such as by assisting with outreach and program facilitation.
- EJ-A2.1: Seek opportunities to identify and construct multi-modal improvements in Communities of Opportunity.
- EJ-P8.3: The County supports the development of high-quality, local jobs within and near Communities of Opportunity to reduce long commutes and resultant vehicle emissions.

The proposed General Plan Update also includes the following policies and actions that would contribute to reducing criteria air pollutant emissions from area sources:

- COS-P5.3: Only EPA Phase II certified wood burning or equivalent devices maybe installed in any residential projects.
- COS-A5.1: Support Air Quality Management District programs that would offer a rebate or incentive to replace wood-burning fireplaces and stoves with EPA-certified wood stoves or gas stoves.
- COS-A5.2: Expand services and conduct outreach to discourage burning household waste.

Furthermore, the General Plan Update includes the following policies that would contribute in reducing emissions from energy consumption by increasing energy efficiency and transitioning from natural gas to electric appliances and full electric homes.

- COS-P2.3: All new County buildings and major renovations designed for public access and/or primary workspace shall meet, at a minimum, LEED-Silver or equivalent and the County shall use these buildings to demonstrate green building practices to builders, developers, homeowners, and others. Minor buildings of an accessory nature that are not used as public spaces and that do not

serve as a primary workspace are not required to meet LEED-Silver or equivalent, but shall implement practical building design, construction, and maintenance solutions as set forth under the LEED rating system or equivalent.

- COS-P2.4: All new subdivisions and developments should meet green planning standards such as LEED for Neighborhood Design.
- COS-P2.5: The County shall work with property owners and property management groups to increase overall building electrification and adoption of modern, efficient appliances in residential rental properties.
- COS-A2.3: Provide incentives for installation of all-electric appliances in new residential construction and remodels through partnerships with existing and future community partners.
- COS A2.4: Explore and adopt, as feasible, Building Code amendments requiring replacement of natural gas space and water heaters with electric models at end of life during the 2022 and successive Buildings Standards Code updates.
- COS A2.5: Identify and remove existing Code, permitting, or other County requirements that provide barriers to all-electric conversions of existing homes and businesses and consider incentives, such as permit streamlining or fee reductions, as feasible.
- COS A2.6: Promote and support opportunities for residents to test electric equipment, such as portable induction cooktops, to encourage transitioning from gas to electric appliances.

However, while the above proposed polices and actions of the General Plan Update could contribute to reducing criteria air pollutant emissions, future development projects that would be accommodated by the General Plan Update could exceed the BCAQMD regional emissions threshold for VOC. Therefore, operational air quality impacts associated with future development of the General Plan Update would be potentially significant.

Level of Significance Before Mitigation: AQ-3 would be potentially significant.

Impact AQ-3a: Operation of development projects allowed under the General Plan Update would generate emissions that would exceed the BCAQMD regional significance thresholds for VOC.

Mitigation Measures

Mitigation Measure AQ-2: Prior to discretionary approval by Butte County for development projects subject to California Environmental Quality Act (CEQA) review (i.e., non-exempt projects), project applicants shall prepare and submit a technical assessment evaluating potential project operation phase-related air quality impacts to the Butte County Planning Division for review and approval. The evaluation shall be prepared in conformance with Butte County Air Quality Management District (BCAQMD) methodology in assessing air quality impacts. If operation-related air pollutants are determined to have the potential to exceed the BCAQMD-adopted thresholds of significance, the Butte County Planning Division shall require that applicants for new development projects incorporate mitigation measures to reduce air pollutant emissions during operational activities. The identified measures shall be included as part of the conditions of approval.

Possible mitigation measures to reduce long-term emissions can include, but are not limited to the following:

- For site-specific development that requires refrigerated vehicles, the construction documents shall demonstrate an adequate number of electrical service connections at loading docks for plug-in of the anticipated number of refrigerated trailers to reduce idling time and emissions.
- Applicants for manufacturing and light industrial uses shall consider energy storage and combined heat and power in appropriate applications to optimize renewable energy generation systems and avoid peak energy use.
- Site-specific developments with truck delivery and loading areas and truck parking spaces shall include signage as a reminder to limit idling of vehicles while parked for loading/unloading in accordance with Section 2485 of 13 CCR Chapter 10.
- Provide changing/shower facilities as specified, at minimum, or greater than in the guidelines in Section A5.106.4.3 of the CALGreen Code (Nonresidential Voluntary Measures).
- Provide bicycle parking facilities equivalent to or greater than as specified in Section A4.106.9 (Residential Voluntary Measures) of the CALGreen Code.
- Provide preferential parking spaces for low-emitting, fuel-efficient, and carpool/van vehicles equivalent to or greater than Section A5.106.5.1 of the CALGreen Code (Nonresidential Voluntary Measures).
- Provide facilities to support electric charging stations per Section A5.106.5.3 (Nonresidential Voluntary Measures) and Section A4.106.8.2 (Residential Voluntary Measures) of the CALGreen Code.
- Applicant-provided appliances shall be Energy Star-certified appliances or appliances of equivalent energy efficiency (e.g., dishwashers, refrigerators, clothes washers, and dryers). Installation of Energy Star-certified or equivalent appliances shall be verified by Building & Safety during plan check.
- Applicants for future development projects along existing and planned transit routes shall coordinate with the Butte County and Butte Regional Transit to ensure that bus pad and shelter improvements are incorporated, as appropriate.
- Applicants for future development projects shall use paints with a VOC content lower than required under BCAQMD Rule 230.

Level of Significance After Mitigation: AQ-3 would be significant and unavoidable. Application of State and BCAQMD rules and regulations, and implementation of the General Plan Update goals, policies, and actions would contribute to reducing operation-related criteria air pollutants generated from energy, area, and mobile sources to the extent feasible. Incorporation of Mitigation Measure AQ-3a would also contribute in reducing criteria air pollutants. Implementation of the aforementioned rules, goals and policies, and mitigation could contribute in reducing operation-phase regional air quality impacts of future individual projects to a less than significant level. However, due to the magnitude of the overall land use development associated with the General Plan Update, Impact AQ-3 would remain *significant and unavoidable*.

Contributing to the nonattainment status would also contribute to elevating health effects associated to these criteria air pollutants. Known health effects related to ozone include worsening of bronchitis, asthma, and emphysema and a decrease in lung function. Health effects associated with particulate matter include premature death of people with heart or lung disease, nonfatal heart attacks, irregular heartbeat, decreased lung function, and increased respiratory symptoms. Reducing emissions would further contribute to reducing possible health effects related to criteria air pollutants.

It is speculative for this broad-based policy plan to determine how exceeding the regional thresholds would affect the number of days the region is in nonattainment since mass emissions are not correlated with concentrations of emissions, or how many additional individuals in the air basin would be affected by the health effects cited above.

This DEIR quantifies the increase in criteria air pollutants emissions in the unincorporated county. However, at a program-level analysis, it is not feasible to quantify the increase in TACs from stationary sources associated with the proposed project or meaningfully correlate how regional criteria air pollutant emissions above the BCAQMD significance thresholds correlate with basinwide health impacts.

To determine cancer and noncancer health risk, the location, velocity of emissions, meteorology and topography of the area, and locations of receptors are equally important as model parameters as the quantity of TAC emissions. The white paper in Appendix 5.3-1, "We Can Model Regional Emissions, But Are the Results Meaningful for CEQA?" describes several of the challenges of quantifying local effects—particularly health risks—for large-scale, regional projects, and these are applicable to both criteria air pollutants and TACs. Similarly, the two amicus briefs filed by the air districts on the *Friant Ranch* case (see Appendix 5.3-1) describe two positions regarding CEQA requirements, modeling feasibility, variables, and reliability of results for determining specific health risks associated with criteria air pollutants. The discussions also include the distinction between criteria air pollutant emissions and TACs with respect to health risks. The following summarizes major points about the infeasibility of assessing health risks of criteria air pollutant emissions and TACs associated with implementation of a general plan.

To achieve and maintain air quality standards, the BCAQMD has established numerical emission indicators of significance for regional and localized air quality impacts for both construction and operational phases of a local plan or project. The BCAQMD has established the thresholds based on its Rule 430, which is based on the California AAQS that have been promulgated to protect public health. The thresholds represent the maximum emissions from a plan or project that are expected not to cause or contribute to an exceedance of the most stringent applicable national or state AAQS. By analyzing the plan's emissions against the thresholds, an EIR assesses whether these emissions directly contribute to any regional or local exceedances of the applicable ambient air quality standards and exposure levels.

BCAQMD currently does not have methodologies that would provide the County with a consistent, reliable, and meaningful analysis to correlate specific health impacts that may result from a proposed project's mass emissions.[2] For criteria air pollutants, exceedance of the regional significance thresholds cannot be used to

[2] In April 2019, the Sacramento Metropolitan Air Quality Management District (SMAQMD) published an Interim Recommendation on implementing *Friant Ranc*h in the review and analysis of proposed projects under CEQA in Sacramento County (see Appendix 5.3-1). Consistent with the expert opinions submitted to the court in *Friant Ranch* by the San Joaquin Valley Air

correlate a project to quantifiable health impacts unless emissions are sufficiently high to use a regional model. BCAQMD has not provided methodology to assess the specific correlation between mass emissions generated and their effect on health (see Appendix 5.3-1: San Joaquin Valley Air Pollution Control District's amicus brief, and South Coast AQMD's amicus brief).

As previously stated, ozone concentrations depend on a variety of complex factors, including the presence of sunlight and precursor pollutants, natural topography, nearby structures that cause building downwash, atmospheric stability, and wind patterns. Secondary formation of particulate matter (PM) and ozone can occur far from sources as a result of regional transport due to wind and topography (e.g., low-level jet stream). Photochemical modeling depends on all emission sources in the entire domain (i.e., modeling grid). Low resolution and spatial averaging produce "noise" and modeling errors that usually exceed individual source contributions. Because of the complexities of predicting ground-level ozone concentrations in relation to the National and California AAQS, it is not possible to link health risks to the magnitude of emissions exceeding the significance thresholds.

Current models used in CEQA air quality analyses are designed to estimate potential project construction and operation emissions for defined projects. The estimated emissions are compared to significance thresholds, which are keyed to reducing emissions to levels that will not interfere with the region's ability to attain the health-based standards. This serves to protect public health in the overall region, but there is currently no CEQA methodology to determine the impact of emissions (e.g., pounds per day) on future concentration levels (e.g., parts per million or micrograms per cubic meter) in specific geographic areas. CEQA thresholds, therefore, are not specifically tied to potential health outcomes in the region.

The EIR must provide an analysis that is understandable for decision making and public disclosure. Regional-scale modeling may provide a technical method for this type of analysis, but it does not necessarily provide a meaningful way to connect the magnitude of a project's criteria pollutant emissions to health effects without speculation. Additionally, this type of analysis is not feasible at a general plan level because the locations of emissions sources and quantity of emissions are not known. However, because cumulative development within Butte County would exceed the regional significance thresholds, the proposed project could contribute to an increase in health effects in the basin until the attainment standards are met in the SVAB.

Pollution Control District (SJVAPCD) and South Coast AQMD, the SMAQMD guidance confirms the absence of an acceptable or reliable quantitative methodology that would correlate the expected criteria air pollutant emissions of projects to likely health consequences for people from project-generated criteria air pollutant emissions. The SMAQMD interim guidance explains that while it is in the process of developing a methodology to assess these impacts, lead agencies should follow the *Friant* court's advice to explain in meaningful detail why this analysis is not yet feasible. Since this interim memorandum, SMAQMD has provided methodology to address health impacts. However, though Butte County is in the SVAB, it is outside the study area and scope covered by the health impact assessment methodology developed by SMAQMD (SMAQMD 2020).

Upper Ridge Community Plan

As discussed in Chapter 3, *Project Description*, the URCP would increase development potential in the Upper Ridge community by redesignating 28 parcels from retail and office to mixed-use land uses in the Old Magalia and Magalia Center neighborhoods. Potential future development in the Upper Ridge community could accommodate up to 851 new dwelling units or 926,739 square feet of new retail space.

The above analysis prepared for the General Plan Update regarding potential regional air quality impacts from operation activities would also apply to the URCP. Overall, operation-related regional air quality impacts associated with the land uses accommodated under the URCP are considered potentially significant.

Level of Significance Before Mitigation: AQ-3 would be potentially significant.

Impact AQ-3b: Operations associated with implementation of the URCP could exceed the BCAQMD regional significance thresholds.

Mitigation Measures

Implement Mitigation Measure AQ-2.

Level of Significance After Mitigation: AQ-3 would be significant and unavoidable.

AQ-4	Construction of the proposed project would not expose sensitive receptors to substantial pollutant concentrations with incorporation of mitigation.

General Plan 2040

Future construction of individual development projects accommodated under the General Plan Update would temporarily elevate concentrations of TACs and DPM in the vicinity of sensitive land uses during construction activities. Since the details regarding future construction activities are not known at this time, quantification of health risk levels is not applicable for the program-level analysis of the General Plan Update. Subsequent environmental review of future development projects would be required to assess potential impacts under BCAQMD's project-level thresholds. However, construction emissions associated with the proposed project could exceed BCAQMD's project level and cumulative significance thresholds for off-site community risk and hazards. Therefore, construction-related health risk impacts associated with the land uses accommodated under the General Plan Update are considered potentially significant.

Level of Significance Before Mitigation: AQ-4 would be potentially significant.

Impact AQ-4a: Construction activities associated with development accommodated under the General Plan Update could expose receptors to substantial air toxic pollutant concentrations.

Mitigation Measures

Mitigation Measure AQ-3: Applicants for construction within 1,000 feet of residential and other sensitive land use projects (e.g., hospitals, nursing homes, day care centers, and elementary schools) in the unincorporated county, as measured from the property line of the project to the property line of the source/edge of the nearest travel lane, shall submit a health risk assessment (HRA) to the Butte County Planning Division prior to future discretionary project approval. The HRA shall be prepared in accordance with policies and procedures of the Office of Environmental Health Hazard Assessment (OEHHA) and the Butte County Air Quality Management District. The latest OEHHA guidelines shall be used for the analysis, including age sensitivity factors, breathing rates, and body weights appropriate for children ages 0 to 16 years. If the HRA shows that the incremental cancer risk exceeds ten in one million (10E-06), $PM_{2.5}$ concentrations exceed 0.3 $\mu g/m^3$, or the appropriate noncancer hazard index exceeds 1.0, the applicant will be required to identify and demonstrate that mitigation measures are capable of reducing potential cancer and non-cancer risks to an acceptable level (i.e., below ten in one million or a hazard index of 1.0), including appropriate enforcement mechanisms. Measures to reduce risk may include, but are not limited to:

- During construction, use construction equipment rated as US EPA Tier 4 Interim for equipment of 50 horsepower or more.
- During construction, use of construction equipment fitted with Level 3 Diesel Particulate Filters for all equipment of 50 horsepower or more.

Measures identified in the HRA shall be included in the environmental document and/or incorporated into the site development plan as a component of the proposed project. Prior to issuance of any construction permit, the construction contractor shall ensure that all construction plans submitted to the Butte County Planning Division clearly show incorporation of all applicable mitigation measures.

Level of Significance After Mitigation: AQ-4 would be less than significant. Mitigation Measure AQ-3 would require preparation of a construction HRA that would identify measures that would reduce health risk levels below the BCAQMD significance thresholds by requiring use of newer, lower-emitting construction equipment and would not expose sensitive receptors to substantial pollutant concentrations. Therefore, Impact AQ-4a would be reduced to less than significant.

Upper Ridge Community Plan

The analysis prepared for the General Plan Update would also apply to the URCP. Therefore, construction-related health risk impacts associated with the land uses accommodated under the URCP are considered potentially significant.

Level of Significance Before Mitigation: AQ-4 would be potentially significant.

Impact AQ-4b: Construction activities associated with development accommodated under the URCP could expose receptors to substantial air toxic pollutant concentrations.

Mitigation Measures

Implement Mitigation Measure AQ-3.

Level of Significance After Mitigation: AQ-4 would be less than significant. For the same reasons described for Impact AQ-4a, implementation of Mitigation Measure AQ-3 would reduce Impact AQ-4b to less than significant.

AQ-5 Operation of nonpermitted sources accommodated under the General Plan Update would expose sensitive receptors to substantial pollutant concentrations of toxic air contaminants.

Development and operation of new land uses accommodated under the General Plan Update and the URCP could generate new sources of criteria air pollutants and TACs from area/stationary sources and mobile sources. The following describes potential localized operational air quality impacts from implementation of the General Plan Update and URCP.

General Plan 2040

CO Hotspots

In general, areas of vehicle congestion have the potential to create pockets of CO called hotspots. These pockets have the potential to exceed the State 1-hour standard of 20 ppm or the 8-hour standard of 9.0 ppm. Butte County was redesignated from nonattainment to attainment in 1998 for CO (USEPA 2022b). Additionally, and overall, CO concentration levels and emissions in Butte County have declined. Per the CARB *2013 Almanac*, CO concentrations in Butte County showed a general downward trend between 1992 and 2011 (e.g., a maximum 1-hour concentration of 14 ppm in 1992 down to 2.6 ppm in 2011) (CARB 2013). Furthermore, CO emissions estimates prepared for the 2004 "Revision to the California State Implementation Plan for Carbon Dioxide" also indicated a downward trend for Butte County and the state as a whole between 1993 and 2018.

BCAQMD previously included guidelines and a threshold of significance to evaluate CO hotspots in its 2008 Handbook and excluded them in the 2014 Handbook, which is the latest and most current version. However, according to other air district CO hotspot screening thresholds, peak hour traffic volumes would need to be high to potentially create a significant CO hotspot impact. Per the Bay Area Air Quality Management District's "2017 CEQA Guidelines," traffic volumes would need to reach 44,000 vehicles per hour to potentially result in a significant CO hotspot impact (BAAQMD 2017). Similarly, the Sacramento Metropolitan Air Quality Management District revised its 2016 CEQA guidelines to include a screening criterion of 31,000 vehicles per hour (SMAQMD 2016). Based on peak hour roadway segment volume data provided by Fehr & Peers, implementation of the General Plan Update would not result in the amount of peak hour vehicle trips under horizon year 2040 conditions that are near the aforementioned screening levels.[3] Overall, implementation of the General Plan Update would not have the potential to substantially increase CO hotspots at intersections in Butte County, and impacts would be less than significant.

Level of Significance Before Mitigation: AQ-5 would be less than significant.

[3] See Appendix 5.3-1 of this DEIR.

Mitigation Measures

No mitigation measures are required.

Toxic Air Contaminants

Permitted Stationary Sources

Various industrial and commercial processes (e.g., manufacturing, dry cleaning) allowed under the General Plan Update would be expected to release TACs. TAC emissions generated by stationary and point sources of emissions within the SVAB are regulated and controlled by BCAQMD. However, emissions of TACs from mobile sources when operating at a property (e.g., truck idling) are regulated by statewide rules and regulations, not by BCAQMD, and have the potential to generate substantial concentrations of air pollutants.

Land uses that would require a permit from BCAQMD for emissions of TACs include chemical processing facilities, chrome-plating facilities, dry cleaners, and gasoline-dispensing facilities. Emissions of TACs from stationary sources would be controlled by BCAQMD through permitting and would be subject to further study and health risk assessment prior to the issuance of any necessary air quality permits under BCAQMD Regulation 4 (e.g., Rule 400, Permit Requirement, and Rule 430, State New Source Review). The BCAQMD permitting process would control potential health risk impacts from permitted stationary sources because new stationary sources would only receive a permit to operate if they do not exceed the 10 in a million cancer risk threshold and the hazard index threshold of 1.

In addition, the General Plan Update includes the following policies under Goal COS-5:

- COS-P5.4: Stationary air pollutant emission sources, such as factories, shall be located more than 500 feet and/or downwind from residential areas and other sensitive receptors.
- COS-P5.6: New sources of toxic air pollutants shall comply with the permitting requirements of the Butte County Air Quality Management District and Section 44300 et. seq. of the California Health and Safety Code.
- LU-P5.3: New industrial uses shall be designed to avoid adverse impacts to adjacent uses, particularly residential neighborhoods, with respect to, but not limited to, noise, dust and vibration, water quality, air quality, agricultural resources, and biological resources.

These proposed General Plan policies would contribute to minimizing potential health risk impacts to sensitive receptors. Overall, combined with the standards and permitting processes, impacts related to permitted stationary sources of TACs are considered less than significant.

Level of Significance Before Mitigation: AQ-5 would be less than significant.

Mitigation Measures

No mitigation measures are required.

Nonpermitted Sources

Mobile sources of TACs are not regulated by BCAQMD. The primary mobile source of TACs within the EIR Study Area is truck idling and use of off-road equipment. New warehousing operations could generate substantial diesel particulate matter emissions from off-road equipment use and truck idling. In addition, some warehousing and industrial facilities may include use of transport refrigeration units (TRUs) for cold storage. New land uses in the EIR study area that would be permitted under the General Plan Update that use trucks, including trucks with TRUs, could generate an increase in diesel particulate matter that would contribute to cancer and noncancer health risk in the SVAB. These types of facilities could also generate particulate matter (PM_{10} and $PM_{2.5}$) that may cause an exceedance or contribute to the continuing exceedance of the federal and State AAQS. These new land uses could be near existing sensitive receptors within and outside the EIR study area. As shown in Figure 3-3, *General Plan Update Land Use Map*, in Chapter 3 of this DEIR, portions of areas designated Industrial in the planning area are in close proximity or adjacent to areas designated for residential use. In addition, trucks would travel on regional transportation routes through the SVAB, contributing to near-roadway DPM concentrations. Therefore, health risk impacts from nonpermitted sources associated with development of industrial and commercial land uses are considered potentially significant.

Level of Significance Before Mitigation: AQ-5 would be potentially significant.

Impact AQ-5: Implementation of the General Plan Update could expose sensitive receptors to substantial toxic air contaminant concentrations from nonpermitted sources

Mitigation Measures

Mitigation Measure AQ-4: Prior to discretionary approval by the Butte County, project applicants for new industrial or warehousing development projects that 1) have the potential to generate 100 or more diesel truck trips per day or have 40 or more trucks with operating diesel-powered transport refrigeration units, and 2) are within 1,000 feet of a sensitive land use (e.g., residential, schools, hospitals, or nursing homes), as measured from the property line of the project to the property line of the nearest sensitive use, shall submit a health risk assessment (HRA) to the Butte County Planning Division for review and approval. The HRA shall be prepared in accordance with policies and procedures of the state Office of Environmental Health Hazard Assessment and the Butte County Air Quality Management District (BCAQMD). If the HRA shows that the incremental cancer risk and/or noncancer hazard index exceeds the respective thresholds, as established by the BCAQMD at the time a project is considered, the project applicant will be required to identify and demonstrate that best available control technologies for toxics (T-BACT), including appropriate enforcement mechanisms, are capable of reducing potential cancer and noncancer risks to an acceptable level. T-BACTs may include, but are not limited to, restricting idling onsite or electrifying warehousing docks to reduce diesel particulate matter, or requiring use of newer equipment and/or vehicles. T-BACTs identified in the HRA shall be identified as mitigation measures in the environmental document and/or incorporated into the site plan.

Level of Significance After Mitigation: AQ-5 would be significant and unavoidable. Buildout of the General Plan Update could expose sensitive receptors to substantial concentrations of toxic air contaminants. Buildout could result in new sources of criteria air pollutant emissions and/or TACs near existing or planned

sensitive receptors. Review of development projects by BCAQMD for permitted sources of air toxics (e.g., industrial facilities, dry cleaners, and gasoline dispensing facilities) would ensure that health risks are minimized. Additionally, Mitigation Measure AQ-5 would ensure mobile sources of TACs not covered under BCAQMD permits are considered during subsequent project-level environmental review by the County. Individual development projects would be required to achieve the incremental risk thresholds established by BCAQMD, and TACs would be less than significant.

However, implementation of the General Plan Update would generate long-term TACs that could contribute to elevated levels in the air basin. Though individual projects could achieve the project-level risk threshold of 10 per million, they would nonetheless contribute to the higher levels of risk in the SVAB. Therefore, Impact AQ-5 is considered significant and unavoidable.

Upper Ridge Community Plan

CO Hotspot

The CO hotspot analysis discussed above for the General Plan Update would also be applicable to the URCP. In addition, land use development proposed under the URCP would be on a much smaller scale than the General Plan Update. Thus, it can be reasonably expected that implementation of the URCP would result in fewer vehicle trips compared to the General Plan Update. Therefore, overall, CO hotspot impacts associated with implementation of the URCP would be less than significant.

Level of Significance Before Mitigation: AQ-5 would be less than significant.

Mitigation Measures

No mitigation measures are required.

Toxic Air Contaminants

Permitted Stationary Sources

As stated, the types of land uses that typically generate substantial quantities of criteria air pollutants and TACs include industrial (stationary sources) and warehousing (truck idling) land uses. These types of major air pollutant emissions sources are not permitted in the URCP. Therefore, the URCP would not result in creation of land uses that would generate substantial concentrations of TACs.

Development of the commercial land uses that are allowed under the URCP may result in stationary sources of TACs emissions—e.g., dry cleaners, restaurants with char broilers, or buildings with emergency generators and boilers. However, these sources are not considered by BCAQMD to be large emitters. Furthermore, these types of stationary sources are subject to BCAQMD's new source review through their permitting requirements and would be subject to further study and health risk assessment prior to the issuance of any necessary air quality permits under BCAQMD Regulation 4 (e.g., Rule 400, Permit Requirement, and Rule 430, State New Source Review). The permitting process ensures that stationary source emissions would be below the BCAQMD significance thresholds of 10 in a million cancer risk and 1

for acute risk at the maximally exposed individual. Therefore, overall, impacts related to TACs are considered less than significant.

Level of Significance Before Mitigation: AQ-5 would be less than significant.

Mitigation Measures

No mitigation measures are required.

Nonpermitted Sources

Potential future development in the Upper Ridge community under the URCP could accommodate up to 851 new dwelling units or 926,739 square feet of new retail space. Overall, the type of land uses accommodated under the URCP would not be the type of land uses (e.g., warehouse) that could generate a substantial number of heavy-duty truck trips or off-road equipment (e.g., forklifts) used in daily business operations. Therefore, health risk impacts from nonpermitted sources associated with the URCP are considered less than significant.

Level of Significance Before Mitigation: AQ-5 would be less than significant.

Mitigation Measures

No mitigation measures are required.

AQ-6	The General Plan Update would result in other emissions (such as those leading to odors) adversely affecting a substantial number of people.

The following discusses potential operation- and construction-related odor impacts associated with implementation of the General Plan Update and URCP.

General Plan 2040

Operation-Related Odors

As shown previously in Table 5.3-8, industrial land uses are the primary types of land uses that have the potential to generate objectionable odors. The General Plan Update would accommodate industrial land uses that could be in within the BCAQMD screening distances to sensitive receptors indicating potential odor impacts. The BCAQMD has Rule 200, Nuisance, which would contribute to control nuisance odors and is as follows:

> No person shall discharge from any non-vehicular source such as quantifies of air contaminants or other material which cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public or which endanger the comfort, response, health or safety of any such persons or the public or which cause or have a natural tendency to cause injury or damage to business or property.

In addition, the following General Plan Update policy would also contribute to minimizing potential nuisance odors:

- COS-P5.4: Stationary air pollutant emission sources, such as factories, shall be located more than 500 feet and/or downwind from residential areas and other sensitive receptors.

However, though industrial land uses accommodated under the General Plan Update would be required to comply with BCAQMD Rule 200 and implementation of Policy COS-5.4 would help minimize potential odor impacts to the extent feasible, future environmental review could be required for industrial projects to ensure that surrounding sensitive land uses are not exposed to nuisance odors. Facilities listed in Table 5.3-8 would need to consider measures to reduce odors as part of their CEQA review. Consequently, review of projects using the BCAQMD odor screening distances is necessary to ensure that odor impacts are minimized. Overall, sensitive receptors could be within the screening distances of future land use development projects that are the types of projects that could generate objectionable odors. Therefore, industrial uses accommodated under the General Plan Update could result in odor impacts that could be potentially significant.

Level of Significance Before Mitigation: AQ-6 would be potentially significant.

Mitigation Measures

Impact AQ-6: Operation of new industrial land uses accommodated under the General Plan Update has the potential to create objectionable odors that could affect a substantial number of people.

Mitigation Measure AQ-5: Prior to project approval, if it is determined during project-level environmental review that a project has the potential to emit nuisance odors beyond the property line, an odor management plan shall be prepared and submitted by the project applicant prior to project approval to ensure compliance with Butte County Air Quality Management District Rule 200, Nuisance. The following facilities that are within the buffer distances specified (in parentheses) from sensitive receptors have the potential to generate substantial odors.

- Wastewater Treatment Plant (2 miles)
- Wastewater Pumping Facilities (1 mile)
- Sanitary Landfill (1 mile)
- Transfer Station (1 mile)
- Composting Facility (2 miles)
- Petroleum Refinery (2 miles)
- Asphalt Batch Plant (2 miles)
- Chemical Manufacturing (1 mile)
- Fiberglass Manufacturing (1 mile)
- Painting/Coating Operations (1 mile)
- Rendering Plant (4 miles)

- Coffee Roaster (1 mile)
- Food Processing Facility (1 mile)
- Feed Lot/ Dairy (1 mile)
- Green Waste and Recycling Operations (2 miles)
- Metal Smelting Plants (1 mile)

The Odor Management Plan prepared for these facilities shall identify control technologies that will be utilized to reduce potential odors to acceptable levels, including appropriate enforcement mechanisms. Control technologies may include, but are not limited to scrubbers (e.g., air pollution control devices) at an industrial facility. Control technologies identified in the odor management plan shall be identified as mitigation measures in the environmental document and/or incorporated into the site plan.

Level of Significance After Mitigation: Significant and unavoidable. Mitigation Measure AQ-5 would ensure that sources identified by BCAQMD are mitigated through adherence to an odor control plan and comply with BCAQMD Rule 200. However, due to the subjective nature of what constitutes an odor impact that could affect a substantial number of people, and the specific factors needed to evaluate potential odor impacts, Impact AQ-6 would be significant and unavoidable.

Construction-Related Odors

During construction activities, construction equipment exhaust and application of asphalt and architectural coatings would temporarily generate odors. Any construction-related odor emissions would be temporary and intermittent in nature. Additionally, noxious odors would be confined to the immediate vicinity of the construction equipment. By the time such emissions reach any sensitive receptor sites, they would be diluted to well below any level of air quality concern. Furthermore, short-term construction-related odors are expected to cease upon the drying or hardening of the odor-producing materials. Therefore, impacts associated with construction-generated odors are considered less than significant.

Level of Significance Before Mitigation: AQ-6 would be less than significant.

Mitigation Measures

No mitigation measures are required.

Upper Ridge Community Plan

Operation-Related Odors

The types of residential and commercial land uses accommodated and permitted under the URCP would not be the types of land uses typically associated with generating odors that could affect a substantial number of people. While the types of land uses accommodated under the URCP could generate odors from cooking or operation of landscaping equipment, these sources of odors are not substantial enough to be considered nuisance odors that would affect a substantial number of people. Additionally, BCAQMD Rule 200 would ensure that odors generated from the land uses accommodated under the URCP are minimized

to less than significant.

Level of Significance Before Mitigation: AQ-6 would be less than significant.

Mitigation Measures

No mitigation measures are required.

Construction-Related Odors

The discussion above for the General Plan Update would also be applicable to the URCP. Overall, impacts associated with construction-generated odors from development of land uses accommodate under the URCP are considered less than significant.

Level of Significance Before Mitigation: AQ-6 would be less than significant.

Mitigation Measures

No mitigation measures are required.

5.3.3 CUMULATIVE IMPACTS

AQ-7	The proposed project, in combination with past, present, and reasonably foreseeable projects, would result in significant cumulative impacts with respect to air quality.

General Plan 2040 and URCP

The cumulative area of analysis is the SVAB, which includes Butte County. As identified in Section 5.3.2.3*, Existing Conditions*, of this DEIR, California is divided into air basins for the purpose of managing the air resources of the state on a regional basis based on meteorological and geographic conditions. Similar to GHG emissions impacts, air quality impacts are regional in nature because no single project generates enough emissions that would cause an air basin to be designated a nonattainment area. Furthermore, per BCAQMD, projects generating emissions that exceed the regional significance thresholds would not only be considered to result in a significance project-level impact, but would also be considered to result in a cumulative impact. Thus, the impacts previously discussed are evaluated in the cumulative context and no additional cumulative analysis is needed.

In summary, implementation of Mitigation Measure AQ-3 would reduce construction level impacts to a less than significant level, and Mitigation Measures AQ-1, AQ-2, AQ-4, and AQ-5 would reduce project-level impacts on an individual basis; however, cumulative impacts are considered potentially significant for construction and operation-related criteria air pollutants and operation-related air toxics, as described above.

Level of Significance Before Mitigation: AQ-7 would be potentially significant.

Impact AQ-7: Implementation of the General Plan Update and the URCP would result in potentially significant cumulative air quality impacts.

Implement Mitigation Measures AQ-1, AQ-2, AQ-3, AQ-4, and AQ-5.

Level of Significance After Mitigation: AQ-7 would be significant and unavoidable. Though implementation of mitigation would reduce cumulative air quality impacts to the extent feasible, Impact AQ-7 would remain significant and unavoidable.

5.3.4 REFERENCES

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5.4 BIOLOGICAL RESOURCES

This chapter describes the regulatory framework and existing conditions in the Plan Area related to biological resources, and the potential impacts of the project on biological resources.

5.4.1 ENVIRONMENTAL SETTING

5.4.1.1 REGULATORY FRAMEWORK

This section summarizes key federal, State, regional, and County regulations, plans, and programs that provide protection and management of sensitive biological resources in Butte County.

Federal Regulations

Federal Endangered Species Act

The Federal Endangered Species Act (ESA) protects fish and wildlife species, and their habitats, that have been identified by the us Fish and Wildlife Service (USFWS) or National Oceanic and Atmospheric Administration's National Marine Fisheries Service (NMFS) as threatened or endangered. *Endangered* refers to species, subspecies, or distinct population segments that are in danger of extinction through all or a significant portion of their range. *Threatened* refers to species, subspecies, or distinct population segments that are likely to become endangered in the near future.

The ESA is administered by the USFWS and the NMFS. In general, NMFS is responsible for protection of ESA-listed marine species and anadromous fish, whereas other listed species are under USFWS jurisdiction. Provisions of ESA Sections 7 and 9 are relevant to the General Plan update and are summarized below.

Endangered Species Act Authorization Process for Federal Actions (Section 7)

Section 7 of the ESA provides a means for authorizing *take* of threatened and endangered species by federal agencies. Under Section 7, the federal agency conducting, funding, or permitting an action (the lead federal agency, such as the U.S. Army Corps of Engineers [USACE]) must consult with USFWS or NMFS, as appropriate, to ensure that the proposed action will not jeopardize endangered or threatened species or destroy or adversely modify designated critical habitat. If a proposed project "may affect" a listed species or designated critical habitat, the lead agency is required to prepare a biological assessment evaluating the nature and severity of the expected effect. In response, USFWS or NMFS issues a biological opinion, with a determination that the proposed action either:

- May jeopardize the continued existence of one or more listed species (*jeopardy finding*) or result in the destruction or adverse modification of critical habitat (*adverse modification finding*), or
- Will not jeopardize the continued existence of any listed species (*no jeopardy finding*) or result in adverse modification of critical habitat (*no adverse modification finding*).

The biological opinion issued by the USFWS or NMFS may stipulate discretionary "reasonable and prudent" conservation measures. If the project would not jeopardize a listed species, the USFWS or NMFS issues an incidental take statement to authorize the proposed activity.

Endangered Species Act Prohibitions (Section 9)

Section 9 of the ESA prohibits the take of any fish or wildlife species listed under the ESA as endangered. Take of threatened species also is prohibited under Section 9, unless otherwise authorized by federal regulations. In some cases, exceptions may be made for threatened species under ESA Section 4[d]; in such cases, the USFWS or NMFS issues a "4[d] rule" describing protections for the threatened species and specifying the circumstances under which take is allowed. *Take*, as defined by ESA, means "to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct." *Harm* is defined as "any act that kills or injures the species, including significant habitat modification." In addition, Section 9 prohibits removing, digging up, cutting, and maliciously damaging or destroying federally listed plants on sites under federal jurisdiction.

Section 10

When no discretionary action is being taken by a federal agency but a project may result in the take of listed species, an incidental take permit under Section 10 of the ESA is necessary. The purpose of the incidental take permit is to authorize the take of federally listed species that may result from an otherwise lawful activity, not to authorize the activities themselves. To obtain an incidental take permit, an application must be submitted that includes a Habitat Conservation Plan (HCP). The purpose of the HCP planning process is to ensure that adequate minimization and mitigation for impacts to listed species and/or their habitat will occur.

Critical Habitat

For the purpose of designating Critical Habitat, habitat is defined as the abiotic and biotic setting that currently or periodically contains the resources and conditions necessary to support one or more life processes of a species. Critical Habitat designations identify, to the extent known and using the best scientific data available, physical or biological features essential to the conservation of the species. These include features that occur in specific areas and that are essential to support the life-history needs of the species, including but not limited to water characteristics, soil type, geological features, sites, prey, vegetation, symbiotic species, or other features. A feature may be a single habitat characteristic, or a more complex combination of habitat characteristics. Features may include habitat characteristics that support ephemeral or dynamic habitat conditions (i.e., conditions that are temporary, short-term, and/or changing). Features may also be expressed in terms relating to principles of conservation biology, such as patch size, distribution distances, and connectivity.

Magnuson-Stevens Fishery Conservation and Management Act

The Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act) establishes a management system for national marine and estuarine fishery resources. This legislation requires that all federal agencies consult with NMFS regarding all actions or proposed actions permitted, funded, or

undertaken that may adversely affect essential fish habitat (EFH). EFH is defined as "waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity." The legislation states that migratory routes to and from anadromous fish spawning grounds are considered EFH. The phrase *adversely affect* refers to the creation of any impact that reduces the quality or quantity of EFH. Federal activities that occur outside EFH but that may, nonetheless, have an impact on EFH waters and substrate also must be considered in the consultation process.

Clean Water Act

The federal Clean Water Act (CWA) was enacted as an amendment to the federal Water Pollution Control Act of 1972, which outlined the basic structure for regulating discharges of pollutants to waters of the United States. The CWA serves as the primary federal law protecting the quality of the nation's surface waters, including lakes, rivers, and coastal wetlands.

The CWA empowers the US Environmental Protection Agency (EPA) to set national water quality standards and effluent limitations and includes programs addressing both point-source and nonpoint-source pollution. Point-source pollution is pollution that originates or enters surface waters at a single, discrete location, such as an outfall structure or an excavation or construction site. Nonpoint-source pollution originates over a broader area and includes urban contaminants in stormwater runoff and sediment loading from upstream areas. The CWA operates on the principle that all discharges into the nation's waters are unlawful unless specifically authorized by a permit; permit review is the CWA's primary regulatory tool. The following sections provide additional details on specific sections of the CWA.

Permits for Fill Placement in Waters and Wetlands (Section 404)

CWA 404 regulates the discharge of dredged and fill materials into waters of the United States. Waters of the United States refers to oceans, bays, rivers, streams, lakes, ponds, and wetlands. On June 22, 2020, the EPA and the Department of the Army published the Navigable Waters Protection Rule to define "Waters of the United States" (85 Federal Register 22250). The agencies streamlined the definition into four categories of jurisdictional waters, provided clear exclusions for many water features that traditionally have not been regulated, and defined terms in the regulatory text that have never been defined before.

The Navigable Waters Protection Rule regulates traditional navigable waters and the core tributary systems that provide perennial or intermittent flow into them.

The four categories of federally regulated waters are:

- The territorial seas and traditional navigable waters.
- Perennial and intermittent tributaries to those waters.
- Certain lakes, ponds, and impoundments.
- Wetlands adjacent to jurisdictional waters.

Applicants must obtain a permit from the USACE for all discharges of dredged or fill material into waters of the United States, including adjacent wetlands, before proceeding with a proposed activity. The USACE may issue either an individual permit evaluated on a case-by-case basis or a general permit evaluated at a program level for a series of related activities. General permits are preauthorized and are issued to cover multiple instances of similar activities expected to cause only minimal adverse environmental effects. Nationwide permits (NWPs) are a type of general permit issued to cover particular fill activities. Each NWP specifies particular conditions that must be met for the NWP to apply to a particular project. Potential waters of the United States in the Planning Area would be under the jurisdiction of the Sacramento District of the USACE.

Compliance with CWA 404 requires compliance with several other environmental laws and regulations. The USACE cannot issue an individual permit or verify the use of a general permit until the requirements of the National Environmental Policy Act, ESA, and National Historic Preservation Act (NHPA) have been met. In addition, the USACE cannot issue or verify any permit until a water quality certification or a waiver of certification has been issued pursuant to CWA 401.

Permits for Stormwater Discharge (Section 402)

CWA 402 regulates construction-related stormwater discharges to surface waters through the National Pollutant Discharge Elimination System (NPDES) program, administered by the EPA. In California, the State Water Resources Control Board is authorized by the EPA to oversee the NPDES program through the Regional Water Quality Control Boards (RWQCB) (see the related discussion under "Porter-Cologne Water Quality Control Act" below). The Planning Area is under the jurisdiction of the Central Valley RWQCB.

NPDES permits are required for projects that disturb more than one acre of land. The NPDES permitting process requires the project applicant to file a public notice of intent (NOI) to discharge stormwater and prepare and implement a stormwater pollution prevention plan (SWPPP). The SWPPP includes a site map and a description of proposed construction activities. In addition, it describes the best management practices (BMP) that will be implemented to prevent soil erosion and discharge of other construction-related pollutants (e.g., petroleum products, solvents, paints, and cement) that could contaminate nearby water resources. Permittees are required to conduct annual monitoring and reporting to ensure that BMPs are correctly implemented and effective in controlling the discharge of stormwater-related pollutants.

Water Quality Certification (Section 401)

Under CWA 401, applicants for a federal license or permit to conduct activities that may result in the discharge of a pollutant into waters of the United States must obtain certification from the state in which the discharge would originate or, if appropriate, from the interstate water pollution control agency with jurisdiction over affected waters at the point where the discharge would originate. Therefore, all projects that have a federal component and may affect State water quality (including projects that require federal agency approval, such as issuance of a CWA 404 permit) also must comply with CWA Section 401. In California, the State Water Resources Control Board is authorized to issue CWA 401 water quality certification through the RWQCB. If the USACE determines a wetland is not subject to regulation under CWA 404, CWA 401 water quality certification is not required. However, the RWQCB may impose waste

discharge requirements if fill material is placed into waters of the State (see the related discussion under "Porter-Cologne Water Quality Control Act," below).

Migratory Bird Treaty Act

The Migratory Bird Treaty Act (MBTA) (16 U.S. Government Code 703–711) implements international treaties between the US and other nations devised to protect migratory birds, any of their parts, eggs, and nests from activities such as hunting, pursuing, capturing, killing, selling, and shipping, unless expressly authorized in the regulations or by permit. As authorized by the MBTA, the USFWS issues permits to qualified applicants for the following types of activities: falconry, raptor propagation, scientific collecting, special purposes (i.e., rehabilitation, education, migratory game bird propagation, and salvage), take of depredating birds, taxidermy, and waterfowl sale and disposal. The regulations governing migratory bird permits can be found in 50 CFR part 13 General Permit Procedures and 50 CFR part 21 Migratory Bird Permits. The State of California has incorporated the protection of birds of prey in Sections 3800, 3513, and 3503.5 of the California Fish and Game Code.

Bald and Golden Eagle Protection Act

The Bald and Golden Eagle Protection Act of 1940 (as amended) provides for the protection of bald eagle and golden eagle by prohibiting the take, possession, sale, purchase, barter, offer to sell, purchase or barter, transport, export or import, of any bald or golden eagle, alive or dead, including any part, nest, or egg, unless allowed by permit (16 USC 668(a); 50 CFR 22). USFWS may authorize take of bald eagles and golden eagles for activities where the take is associated with, but not the purpose of, the activity and cannot practicably be avoided (50 CFR 22.26).

State Regulations

California Endangered Species Act

The California Endangered Species Act (CESA) establishes State policy to conserve, protect, restore, and enhance threatened or endangered species and their habitats. CESA mandates that State agencies should not approve projects that jeopardize the continued existence of threatened or endangered species if reasonable and prudent alternatives are available that would avoid jeopardy. For projects that would affect species that are on the federal and State lists, compliance with the federal ESA satisfies CESA if the California Department of Fish and Wildlife (CDFW) determines that the federal incidental take authorization is consistent with CESA under California Fish and Game Code Section 2080.1. For projects that would result in take of species that are only State listed, the project proponent must apply for a take permit under Section 2081(b) of the California Fish and Game Code.

California Environmental Quality Act

The California Environmental Quality Act (CEQA) applies to "projects" proposed to be undertaken or requiring approval by State and local government agencies. Projects are defined as having the potential to have physical impact on the environment. Under Section 15380 of the CEQA Guidelines, a species not included on any formal list "shall nevertheless be considered rare or endangered if the species can be shown by a local agency to meet the criteria" for listing. With sufficient documentation, a species could be

shown to meet the definition of rare or endangered under CEQA and be considered a "de facto" rare or endangered species.

California Fish and Game Code

Under the California Fish and Game Code, the CDFW provides protection from "take" for a variety of species. The CDFW also protects streams, water bodies and riparian corridors through the streambed alteration agreement process under Section 1601 to 1606 of the California Fish and Game Code. The Fish and Game Code stipulates that it is "unlawful to substantially divert or obstruct the natural flow or substantially change the bed, channel or bank of any river, stream or lake" without notifying CDFW, incorporating necessary mitigation, and obtaining a streambed alteration agreement. CDFW's jurisdiction extends to the top of banks and often includes the outer edge of riparian vegetation canopy cover.

California Native Plant Protection Act

The California Native Plant Protection Act of 1977 (CNPPA) prohibits importation of rare and endangered plants into California, "take" of rare and endangered plants and sale of rare and endangered plants. CESA defers to the CNPPA, which ensures that State-listed plant species are protected when State agencies are involved in projects subject to CEQA. In this case, plants listed as rare under the CNPPA are not protected under CESA but under CEQA.

California Natural Communities

Sensitive natural communities are natural community types considered to be rare or of a "high inventory priority" by the CDFW. Although sensitive natural communities have no legal protective status under ESA or CESA, they are provided some level of consideration under CEQA. Appendix G of the CEQA Guidelines identifies potential impacts on a sensitive natural community as one of six criteria to consider in determining the significance of a proposed project. While no thresholds are established as part of this criterion, it serves as an acknowledgement that sensitive natural communities are an important resource and, depending on their rarity, should be recognized as part of the environmental review process. The level of significance of a project's impact on any particular sensitive natural community will depend on that natural community's relative abundance and rarity.

As an example, a discretionary project that has a substantial adverse effect on any riparian habitat, native grassland, valley oak woodland, and/or other sensitive natural community would normally be considered to have a significant effect on the environment. Further loss of a sensitive natural community could be interpreted as substantially diminishing habitat, depending on its relative abundance, quality and degree of past disturbance, and the anticipated impacts to the specific community type.

California Oak Woodlands Conservation Act

The California Oak Woodlands Conservation Act was enacted in 2001 to protect oak woodland habitats that were being diminished due to development, firewood harvesting, and agricultural conversions. The Oak Woodlands Conservation Program was established to provide funding opportunities for private landowners, conservation organizations, and cities and counties to conserve and restore oak woodlands.

The program authorizes the Wildlife Conservation Board to purchase oak woodland conservation easements and provide grants for land improvements and oak restoration efforts.

Sacramento River Conservation Area

The State Legislature passed Senate Bill (SB) 1086 in 1986, which called for a management plan for the Sacramento River and its tributaries that would protect, restore, and enhance both fisheries and riparian habitat (SRAC 2003). As a result of SB 1086, in 2001 the Department of Water Resources developed the Sacramento River Conservation Area Handbook, which set forth a management program for the Sacramento River Conservation Area. The overall goal of the management program for the Sacramento River Conservation Area is to preserve remaining riparian habitat and reestablish a continuous riparian ecosystem along the Sacramento River between Redding and Chico and to reestablish riparian vegetation along the river from Chico to Verona.

Porter-Cologne Water Quality Control Act

Under the Porter-Cologne Water Quality Act, the RWQCB regulates actions that would involve "discharging waste, or proposing to discharge waste, within any region that could affect the water of the state" (Water Code 13260(a)). Waters of the state are defined as "any surface water or groundwater, including saline waters, within the boundaries of the state" (Water Code 13050 (e)). The RWQCB regulates all such activities, as well as dredging, filling, or discharging materials into waters of the State, that are not regulated by the USACE due to a lack of connectivity with a navigable water body. The RWQCB may require issuance of WDRs for these activities. Although all waters of the United States that are within the borders of California are also waters of the state, the converse is not true (i.e., not all waters of the State are also waters of the United States). Thus, California retains authority to regulate discharges of waste into any waters of the state, regardless of whether the USACE has concurrent jurisdiction under CWA 404.

Native Plant Protection Act

The NPPA of 1977 (California Fish and Game Code §§ 1900–1913) was established with the intent to "preserve, protect and enhance rare and endangered plants in this state." CDFW administers the NPPA. The Fish and Game Commission has the authority to designate native plants as "endangered" or "rare."

The NPPA prohibits the take of plants listed under it, though the act contains exemptions to this prohibition that have not been clarified by regulation or judicial rule. In 1984, the California ESA brought under its protection all plants previously listed as endangered under NPPA. Plants listed as rare under NPPA are not protected under the California ESA but are still protected under the provisions of NPPA. The Fish and Game Commission no longer lists plants under NPPA, reserving all listings to the California ESA.

California Fish and Game Code Special Protections for Birds

In addition to protections contained within the California ESA and California Fish and Game Code § 3511 described above, the California Fish and Game Code includes several sections that specifically protect certain birds:

- Section 3800 states that it is unlawful to take nongame birds, such as those occurring naturally in California that are not resident game birds, migratory game birds, or fully protected birds, except when in accordance with regulations of the California Fish and Game Commission or a mitigation plan approved by CDFW for mining operations.
- Section 3503 prohibits the take, possession, or needless destruction of the nest or eggs of any bird.
- Section 3503.5 protects birds of prey (which includes eagles, hawks, falcons, kites, ospreys, and owls) and prohibits the take, possession, or destruction of any birds and their nests.
- Section 3505 makes it unlawful to take, sell, or purchase egrets, ospreys, and several exotic non-native species, or any part of these birds.
- Section 3513 specifically prohibits the take or possession of any migratory nongame bird as designated in the MBTA.

Lake or Streambed Alteration Agreements

Section 1602 of the California Fish and Game Code requires individuals or agencies to provide a Notification of Lake or Streambed Alteration to CDFW for "any activity that may substantially divert or obstruct the natural flow or substantially change the bed, channel, or bank of any river, stream, or lake." CDFW reviews the proposed reviews the proposed actions and, if necessary, proposed measures to protect affected fish and wildlife resources. The final proposal mutually agreed upon by CDFW and the applicant is the Lake and Streambed Alteration Agreement.

Local Regulations

Butte County General Plan

The following policies are included in the existing General Plan regarding biological resources. The numbering is from the existing General Plan and therefore may not be consecutive.

Land Use Element

- Goal LU-1 Continue to uphold and respect the planning principles on which the County's land use map is based.
    - LU-P1.10 The County shall limit development in foothill and mountain areas that are constrained by fire hazards, water supply, migratory deer habitat, or infrastructure.

Circulation Element

- Goal CIR-3 Design new neighborhoods, and improve existing neighborhoods, to accommodate and promote alternative modes of transportation.
    - CIR-P3.10 Trees located along urban streets shall be protected. If maintenance or upgrading requires tree removal, the trees shall be replaced.

Water Resources Element

- Goal W-6 Improve streambank stability and protect riparian resources.
    - W-P6.1 Any alteration of natural channels for flood control shall retain and protect riparian vegetation to the extent possible while still accomplishing the goal of providing flood control. Where removing existing riparian vegetation is unavoidable, the alteration shall allow for reestablishment of vegetation without compromising the flood flow capacity.
    - W-P6.2 Where streambanks are already unstable, as demonstrated by erosion or landslides along banks, tree collapse, or severe in-channel sedimentation, proponents of new development projects shall prepare a hydraulic and/or geomorphic assessment of on-site and downstream drainageways that are affected by project area runoff.

Conservation and Open Space Element

- Goal COS-6 Engage in cooperative planning efforts to protect biological resources.
    - COS-P6.1 The County shall coordinate with applicable federal, State, regional and local agencies on natural resources and habitat planning.
- Goal COS-7 Conserve and enhance habitat for protected species and sensitive biological communities.
    - COS-P7.1 Conservation easements that protect habitat areas, habitat corridors and sensitive biological resources shall be promoted.
    - COS-P7.2 Clustered development patterns shall be encouraged in order to conserve habitat for protected species and biological resources.
    - COS-P7.3 Creeks shall be maintained in their natural state whenever possible, and creeks and floodways shall be allowed to function as natural flood protection features during storms.
    - COS-P7.4 New development projects shall mitigate their impacts in habitat areas for protected species through on- or off-site habitat restoration, clustering of development, and/or project design and through the provisions of the Butte Regional Habitat Conservation Plan (HCP) and Natural Community Conservation Plan (NCCP) within the HCP/NCCP Planning Area, upon the future adoption of the HCP/NCCP.
    - COS-P7.5 No new development projects shall occur in wetlands or within significant riparian habitats, except within the Butte Regional Habitat Conservation Plan (HCP) and Natural Community Conservation Plan (NCCP) Planning Area where such development is consistent with the conditions of the HCP/NCCP, upon the future adoption of the HCP/NCCP.
    - COS-P7.6 New development projects shall include setbacks and buffers along riparian corridors and adjacent to habitat for protected species, except where permitted in the Butte Regional Habitat Conservation Plan (HCP) and Natural Community

Conservation Plan (NCCP) Planning Area and where such development is consistent with the conditions of the HCP/NCCP, upon the future adoption of the HCP/NCCP.

- COS-P7.7 Construction barrier fencing shall be installed around sensitive resources on or adjacent to construction sites. Fencing shall be installed prior to construction activities and maintained throughout the construction period.
- COS-P7.8 Where sensitive on-site biological resources have been identified, construction employees operating equipment or engaged in any development-associated activities involving vegetation removal or ground disturbing activities in sensitive resource areas shall be trained by a qualified biologist and/or botanist who will provide information on the on-site biological resources (sensitive natural communities, special-status plant and wildlife habitats, nests of special-status birds, etc.), avoidance of invasive plant introduction and spread, and the penalties for not complying with biological mitigation requirements and other State and federal regulations.
- COS-P7.9 A biologist shall be retained to conduct construction monitoring in and adjacent to all habitats for protected species when construction is taking place near such habitat areas.
- COS-P7.10 Long-term recovery plans for areas affected by wildfire shall incorporate native species and enhance wildlife habitat.
- COS-P7.11 The County shall work with the military to ensure that land uses under the Military Operations Areas (MOAs) encourage the fulfillment of the County's biological resource protection goals.

- Goal COS-8 Maintain and promote native vegetation.
  - COS-P8.1 Native plant species shall be protected and planting and regeneration of native plant species shall be encouraged, wherever possible, in undisturbed portions of development sites.
  - COS-P8.2 New landscaping shall promote the use of xeriscape and native tree and plant species, including those valued for traditional Native American cultural uses.
  - COS-P8.3 Native plants shall be used wherever possible on County-owned and -controlled property.
  - COS-P8.4 Introduction or spread of invasive plant species during construction of development projects shall be avoided by minimizing surface disturbance; seeding and mulching disturbed areas with certified weed-free native mixes; and using native, noninvasive species in erosion control plantings.
- Goal COS-9 Protect identified special-status plant and animal species.
  - COS-P9.1 A biological resources assessment shall be required for any proposed development project where special-status species or critical habitat may be present. Assessments shall be carried out under the direction of Butte County. Additional focused surveys shall be conducted during the appropriate season if necessary. Upon

adoption of the Butte Regional Habitat Conservation Plan (HCP) and Natural Community Conservation Plan (NCCP), assessment requirements of the HCP/NCCP shall be implemented for development projects within the HCP/NCCP area.

- COS-P9.2 If special-status plant or animal species are found to be located within a development site, proponents of the project shall engage in consultation with the appropriate federal, State and regional agencies and mitigate project impacts in accordance with State and federal law. Upon adoption of the Butte Regional Habitat Conservation Plan (HCP) and Natural Community Conservation Plan (NCCP), mitigation requirements of the HCP/NCCP shall be implemented for development projects within the HCP/NCCP area. Examples of mitigation may include:
  a. Design the proposed project to avoid and minimize impacts.
  b. Restrict construction to specific seasons based on project-specific special-status species issues (e.g. minimizing impacts to special-status nesting birds by constructing outside of the nesting season).
  c. Confine construction disturbance to the minimum area necessary to complete the work.
  d. Mitigate for the loss of special-status species by purchasing credits at an approved conservation bank (if a bank exists for the species in question), funding restoration or habitat improvement projects at existing preserves in Butte County, or purchasing or donating mitigation lands of substantially similar habitat.
  e. Maintain a minimum 100-foot buffer on each side of all riparian corridors, creeks and streams for special-status and common wildlife.
  f. Establish setbacks from the outer edge of special-status species habitat areas.
  g. Construct barriers to prevent compaction damage by foot or vehicular traffic.

- Goal COS-10 Facilitate the survival of deer herds in winter and critical winter migratory deer herd ranges.
  - COS-P10.1 Clustered development projects that are designed to accommodate herd migration patterns shall be allowed and encouraged, with remaining areas protected under conservation easements, within the Winter and Critical Winter Deer Herd Migration Area Overlays in order to protect migratory deer herd ranges.

Upper Ridge Community Plan

The following policies are included in the existing URCP regarding aesthetics. The numbering is from the plan (see web address for existing URCP) and therefore may not be consecutive.

Hazard Risk Reduction Strategies: Forestry and Ecological Pests and Diseases

- Strategy HS-1.11: Integrate wildlife corridors and migration paths in the design of new development or parks on the Upper Ridge to accommodate the migration of animals.

- Strategy HS-1.12: Develop an outreach program on the Upper Ridge to educate residents and visitors about plant and animal species in the area, including the effects of tourism and recreation on the natural environment.

Butte Regional Conservation Plan

The Butte Regional Conservation Plan (BRCP) is a federal HCP and a State Natural Community Conservation Plan (NCCP) that is being coordinated by multiple local agencies through the Butte County Association of Governments (BCAG). The final BRCP was submitted to USFWS, NMFS, and CDFW in 2019 for final review and publication in the Federal Register. Once adopted, the BRCP will provide streamlined State and federal ESA and wetlands permitting for covered activities such as transportation and land development projects. The BRCP-Covered Species include 38 species of wildlife, fish, and plants. Development of a final Regional General Permit, an In-Lieu-Fee program, and streamlined permitting processes for Section 404 permits is underway. In the future, the BCAG hopes to develop and implement streamlining processes for Section 401 of the CWA, Section 1600 of the CDFW Code, and Section 106 of the NHPA.

Butte County Oak Woodlands Management Plan

In 2007, the Butte County adopted the Oak Woodlands Management Plan Resolution, which is intended to provide incentive-based, voluntary opportunities to private landowners who wish to pursue oak woodland conservation strategies as provided by the 2001 California Oak Woodlands Conservation Act. This resolution adopts the 2006 Oak Woodland Resources Assessment Report, developed by the Butte County Resource Conservation District, as the Butte County Oak Woodlands Management Plan (Management Plan). Through the Management Plan, the County acknowledges the values associated with oak woodlands, and recognizes and supports private landowners who choose to voluntarily adopt measures to ensure oak woodland viability through participation in the Oak Woodlands Conservation Program. The Management Plan also accepts individual grant applications and provides review by the Butte County Board of Supervisors before submitting them to the Wildlife Conservation Board.

Defensible Space and Hazardous Vegetation Management

Section 38A-6 (Defensible Space and Hazardous Vegetation Management) of Chapter 38A (Fire Prevention and Protection) of the County Code establishes requirements for maintenance of defensible space on urban parcels and parcels within the unincorporated area of the county.

Any urban parcel or parcel within the unincorporated area of the county must follow the maintenance requirements outlined in this section of the County Code, including, but not limited to ensuring five feet from any building is free of dead vegetative debris, maintaining a 100-foot firebreak around any building, and maintaining clearance of hazardous vegetation from the road corridor. Unimproved urban parcels 1.25 acres or smaller in size require firebreaks on the entire area of each parcel.

Butte County Oak Woodlands Management Plan Resolution

The Butte County Oak Woodlands Management Plan Resolution (No. 07-084), adopted on April 24, 2007, outlines oak woodland conservation goals and policies. This resolution adopts the 2006 Oak Woodland

Resources Assessment Report, developed by the Butte County Resource Conservation District, as the Butte County Oak Woodlands Management Plan (Management Plan). Through the Management Plan, the County supports private landowners who choose to voluntarily adopt measures to ensure oak woodland viability through participation in the Oak Woodlands Conservation Program. The Management Plan also provides for review and acceptance of individual grant applications by the Butte County Board of Supervisors before submitting them to the state's Wildlife Conservation Board.

Sacramento River Conservation Area Handbook

California's Senate Bill 1086, which was passed in 1986, called for a management plan for the Sacramento River and its tributaries to protect, restore, and enhance both fisheries and riparian habitat. As a result of this bill, the Department of Water Resources developed the Sacramento River Conservation Area Handbook, which set forth a management program for the Sacramento River Conservation Area. The overall goal of the management program for the Sacramento River Conservation Area is to preserve the remaining riparian habitat and reestablish a continuous riparian ecosystem along the Sacramento River between Redding and Chico and to reestablish riparian vegetation along the river from Chico to Verona. The Sacramento River Conservation Are Handbook includes guiding principles and planning tools that should govern riparian habitat management along the Sacramento River.

5.4.1.2 EXISTING CONDITIONS

Site Characteristics

The General Plan Area has a high diversity of biological communities because it extends from the Sacramento Valley floor at an elevation range of approximately 50 feet above mean sea level to the Sierra Nevada at an elevational range of more than 8,000 feet above mean sea level. The General Plan Area includes five different subregions: Sacramento Valley, Cascade Range foothills, northern Sierra Nevada foothills, High Cascade Range, and northern High Sierra Nevada. Biological communities in the Sacramento Valley subregion of General Plan Area have been substantially altered since the mid-1800s, when the area was first hydraulically mined, then dredged for gold, then developed for agriculture.

Vegetation Communities and Land Cover Types

There are nine general vegetation communities or land cover types that grow in the General Plan Area:

Conifer Forest

The General Plan Area includes several types of coniferous forests: montane hardwood-conifer, ponderosa pine (*Pinus ponderosa*), Sierran mixed conifer, red fir (*Abies magnifica* var. *magnifica*), and subalpine conifer. These forest types are all dominated by conifers but vary in their species composition and elevations where they occur.

Oak Woodland

Oak woodland community types in the General Plan Area include valley oak woodland, blue oak woodland, and blue oak-foothill pine. Oak woodlands are scattered throughout the General Plan Area but

are concentrated in the transition area between the lower valley and higher elevations of the General Plan Area.

Riparian Woodland

Riparian woodland occurs throughout the General Plan Area along portions of the Feather River, Thermalito Afterbay and Forebay, Thermalito Diversion Pool, and along numerous smaller perennial and ephemeral drainages. Riparian woodlands are also commonly associated with dredge tailings. Riparian woodlands in the General Plan Area are typically dominated by a mixture of trees and shrubs, including Fremont cottonwood (*Populus fremontii*), valley oak, Oregon ash (*Fraxinus latifolia*), Himalayan blackberry (*Rubus armeniacus*), and various willows (*Salix* spp.).

Chaparral

Chaparral occurs on foothill slopes, within the understory of woodlands, and at higher elevations of the General Plan Area. This community at lower elevations is dominated by whiteleaf manzanita (*Arctostaphylos viscida*) and scrub oak (*Quercus berberidifolia*), with associated species such as toyon, California buckeye, and poison oak. At higher elevations, whiteleaf manzanita may be the only dominant shrub, and it often occurs on serpentine or gabbro substrates.

Annual Grassland

Annual grasslands occur throughout the General Plan Area. Large, open areas of annual grasslands occur primarily in the central portion of the General Plan Area and are typically used as grazing pastures for livestock. Annual grasslands also form the understory for oak woodland and occur in vacant parcels in developed areas. Annual grasslands in the General Plan Area are dominated by nonnative annual grasses with intermixed annual and perennial forbs, including wild oat (*Avena fatua*), ripgut brome (*Bromus diandrus*), soft chess (*Bromus hordeaceus*), fescue (*Festuca* sp.), clover (*Trifolium variegatum*), wild mustard (*Brassica* sp.), and wild radish (*Raphanus raphanistrum*).

Aquatic Resources

Aquatic resources within the General Plan Area can be generally categorized as Open Water and Wetlands. Open water communities in the General Plan Area include several large reservoirs, numerous small ponds throughout agricultural areas, and riverine habitats in perennial and ephemeral drainages. The three main categories of wetlands that occur in the General Plan Area include: freshwater marsh, wet meadow, and vernal pool.

Agricultural Land

Areas used for agriculture are scattered throughout the western half of the General Plan Area. The three most land-intensive crops in the county (rice, almonds, and English walnuts) occupy over one-third of the available agricultural acreage. Other important crops include kiwi, dried plums (prunes), peaches, and olives.

Barren Land

Barren land is unvegetated and may include areas of vertical riverbanks of loose soil at lower elevations and exposed rock in alpine areas above the tree line or between high-elevation conifer forests. Urban areas also may include barren land with large expanses of pavement or buildings where there is little or no vegetation.

Urban Areas

Urbanized portions of the General Plan Area include Chico, Paradise, Oroville, Boggs, and Gridley as well as other smaller unincorporated communities. Biological communities in these areas are relatively limited and support a predominance of horticultural plant species rather than native species.

Table 5.4-1 shows *Federal and State Listed Species with Potential to Occur in the Planning Area*. Other special-status species that may occur in each community type are listed in Table 5.4-2, *Special Status Plants Documented or Identified as Having the Potential to Occur in the Planning Area*.

Plant Species

Table 5.4-2, *Special Status Plants Documented or Identified as Having the Potential to Occur in the Planning Area,* lists all the special-status plant species that have been documented to occur within the General Plan Area or may be potentially affected by activities in the General Plan Area, as identified in the literature review. However, Table 5.4-2 should not be considered a complete list of special-status plant species that may occur within the General Plan Area. Other species not identified in the literature review may occur in the General Plan Area presently or in the future.

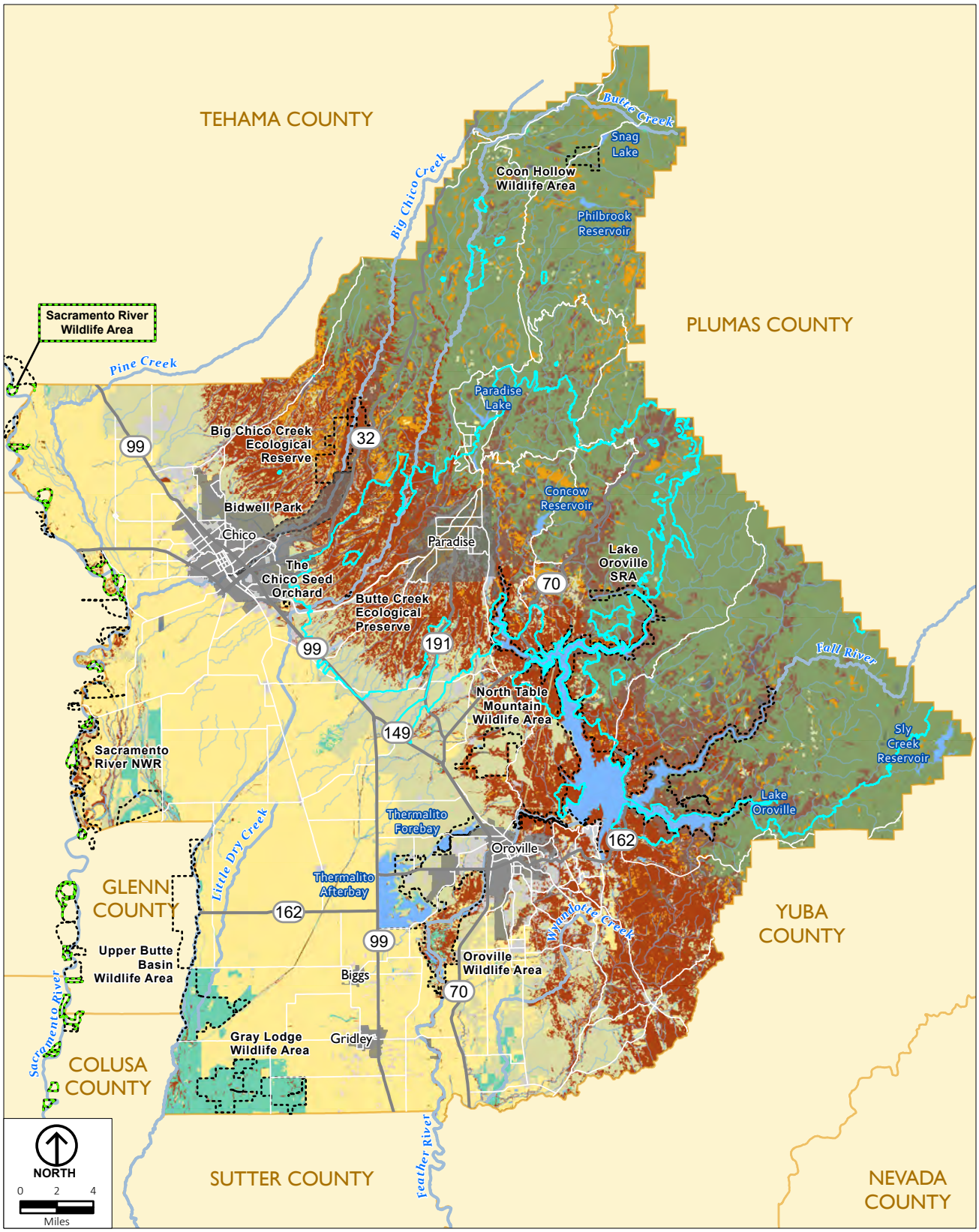
Wildlife

Table 5.4-3, *Special Status Wildlife Species Documented or Identified as Having the Potential to Occur in the Planning Area*, lists all the special-status wildlife species that have been documented to occur within the General Plan Area or may be potentially affected by activities in the General Plan Area, as identified in the literature review. However, Table 5.4.3 should not be considered a complete list of special-status wildlife species that may occur within the General Plan Area. Other species not identified in the literature review may occur in the General Plan Area presently or in the future.

Biological Communities

Based on a review of the existing Butte County General Plan, the Ecological Baseline Conditions Report for the Butte Regional Conservation Plan, the National Vegetation Classification System and its California expression, the Manual of California Vegetation, and A Guide to Wildlife Habitats of California, 10 general types of biological communities occur in the Planning Area. These 10 communities are conifer forest, oak woodland, riparian woodland, chaparral, annual grassland, open water (including reservoirs, ponds, and drainages), wetlands (including perennial and seasonal wetland types, such as freshwater marsh, wet meadow, and vernal pool), agricultural land, barren land, and urban areas. The distribution of general biological community types in the Planning Area is closely associated with the varying topography and hydrology of the geographic subregions. Much of the Sacramento Valley subregion supports agricultural land, annual grassland, and wetlands, while the higher elevation foothills subregions are primarily

grassland, oak woodland, and chaparral communities. The highest elevations in the Cascade Range and Sierra Nevada are conifer forest and chaparral communities. Drainages and open water occur within all subregions. Most stream corridors support riparian woodland communities, although these are not specifically shown on the Figure 5.4-1, *Vegetation Communities*, due to their relatively small scale. A discussion of each biological community type, including associated common and federally or state-listed plant and wildlife species, is provided below. Federally or state-listed plant and wildlife species with potential to occur in the Planning Area are listed in Table 5.4-1, *Federal and State Listed Species with Potential to Occur in the Planning Area*. Other special-status species that may occur in each community type are listed in Tables 5.4-2, *Special Status Plants Documented or Identified as Having the Potential to Occur in the Planning Area* and 5.4-3, *Special Status Wildlife Species Documented or Identified as Having the Potential to Occur in the Planning Area*.



Source: CDFFP, CALFIRE, FRAP, CDFW VegCamp, USDA Forest Service Region 5 Remote Sensing Laboratory (RSL) data

Vegetation Community Type

- Incorporated Jurisdictions
- Parks, Preserves, Wildlife Areas
- Streams / Channels
- 2018 and 2020 Fire Perimeters
- Agriculture
- Barren/Other
- Conifer Forest
- Conifer Woodland
- Desert Shrub
- Desert Woodland
- Hardwood Forest
- Hardwood Woodland
- Herbaceous
- Shrub
- Urban
- Water
- Wetland

Figure 5.4-1
Vegetative Communities

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TABLE 5.4-1 FEDERAL-AND STATE-LISTED SPECIES WITH POTENTIAL TO OCCUR IN THE PLANNING AREA

Species	Federal Listed[1]	Designated Critical Habitat	State Listed
Hoover's spurge	X	X	
Butte County meadowfoam	X	X	X
Hairy Orcutt grass	X	X	X
Greene's tuctoria	X	X	X
Layne's ragwort	X		X
Conservancy fairy shrimp	X	X	
Vernal pool fairy shrimp	X	X	
Vernal pool tadpole shrimp	X	X	
Valley elderberry longhorn beetle	X		
Cascades frog			C
California tiger salamander[2]	X		
California red-legged frog	X	X	
Sierra Nevada yellow-legged frog	X		X
Giant garter snake	X		X
Bald eagle	D		X
Swainson's hawk			X
California black rail			X
Greater sandhill crane			X
Least Bell's vireo	X		X
Tricolored blackbird			X
Western yellow-billed cuckoo	X	P	X
Willow flycatcher			X
Bank swallow			X
Central Valley steelhead	X		
Central Valley spring-run Chinook salmon	X		
Sacramento River winter-run Chinook salmon	X		X
Green sturgeon		X	
Spring-run Chinook salmon		X	
Steelhead		X	
Sierra Nevada red fox			X
Pacific fisher	X		
California wolverine			X

1. X = listed, C = candidate, P = proposed, D = delisted

2. California tiger salamander is considered extirpated from the county (CDFW 2021).

TABLE 5.4-2 SPECIAL-STATUS PLANTS DOCUMENTED OR IDENTIFIED AS HAVING THE POTENTIAL TO OCCUR IN THE PLANNING AREA

Common and Scientific Name	Legal Status[a] Federal/ State/ CNPS/HCP	Geographic Distribution/ Floristic Province	Habitat Requirements	Blooming Period	Quadrangles with Recorded Occurrences of Species[b] and Habitat in the Planning Area
Henderson's bent grass *Agrostis hendersonii*	–/–/3.2/–	Scattered locations in Central Valley and adjacent foothills with occurrences in Butte, Calaveras, Merced, Placer, Shasta, and Tehama Counties	Moist places in valley and foothill grassland, vernal pools; 70–305 m	Apr–Jun	Berry Creek, Brush Creek; habitat present in grasslands and vernal pools
Jepson's onion *Allium jepsonii*	–/–/1B.2/–	Sierra Nevada foothills in Butte County; one disjunct population in Tuolumne County	Serpentine or basalt outcrops in cismontane woodland and lower montane coniferous forest; 300–1,320 m	Apr–Aug	Berry Creek, Cherokee, Paradise East, Pulga, Sterling City; habitat present in oak woodlands
Sanborn's onion *Allium sanbornii* var. *sanbornii*	–/–/4.2/–	Cascade Range foothills and Sierra Nevada foothills, from Shasta County to Calaveras County	Chaparral, oak woodland, lower montane coniferous forest, usually on serpentinite; 260–1,510 m	May–Sep	Berry Creek, Brush Creek, Butte Meadows, Clipper Mills, Cohasset, Devils Parade Ground, Paradise East, Rackerby, Stirling City; habitat present in chaparral, oak woodland, and coniferous forest
Slender silver-moss *Anomobryum julaceum*	–/–/4.2/–	Scattered occurrences in California: Butte, Humboldt, Sonoma, Shasta, Santa Cruz, and Mariposa Counties; Oregon and elsewhere	Broadleafed upland forest, lower montane coniferous forest, North Coast coniferous forest on damp rock and soil on outcrops, usually on road cuts; 100–1,000 m	Non-flowering	Pulga; habitat present in coniferous forest
True's manzanita *Arctostaphylos mewukka* ssp. *truei*	–/–/4.2/–	Endemic to the northern Sierra Nevada foothills	Sometimes roadside in chaparral, lower montane coniferous forest; 425–1,390 m	Feb–Jul	Berry Creek, Butte Meadows, Cascade, Clipper Mills, Forbestown, Paradise East, Pulga, Soapstone Hill, Stirling City; habitat present in chaparral and coniferous forests
Carlotta Hall's lace fern *Aspidotis carlotta-halliae*	–/–/4.2/–	Central Coast, San Francisco Bay Area, Inner South Coast Ranges, and Outer South Coast Ranges. One historic collection in Butte County.	Chaparral and cismontane woodland, usually on serpentinite; 100–1,400 m	Jan–Dec	Pulga; habitat present in chaparral and oak woodland.
Depauperate milk-vetch *Astragalus pauperculus*	–/–/4.3/–	Cascade Range foothills, northern Sacramento Valley	Valley and foothill grassland, chaparral, cismontane woodland; 60–1,215 m	Mar–Jun	Campbell Mound, Cherokee, Chico, Cohasset, Devils Parade Ground, Hamlin Canyon, Loma Rica, Nord, Oroville, Paradise West, Richardson Springs, Shippee, Vina; habitat present in annual grassland, chaparral, and oak woodland

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Ferris's milk vetch *Astragalus tener* var. *ferrisiae*	–/–/1B.1/–	Historic range included the Central Valley from Butte to Alameda Counties; currently only occurs in Butte and Glenn Counties	Seasonally wet areas in meadows and seeps, subalkaline flats in valley and foothill grassland; 2–75 m	Apr–May	Butte City, Llano Seco, Nord*, Pennington, West of Biggs*; habitat present in annual grasslands
Heartscale *Atriplex cordulata* var. *cordulata*	–/–/1B.2/–	Western Central Valley and valleys of adjacent foothills	Saline or alkaline soils in chenopod scrub, meadows and seeps, sandy areas in valley and foothill grassland; 2–560 m	Apr–Oct	Pennington; habitat present in annual grasslands
Lesser saltscale *Atriplex minuscula*	–/–/1B.1/–	Sacramento and San Joaquin Valley, Butte County, and from Merced to Kern Counties	Sandy or alkaline soils in chenopod scrub, playas, valley and foothill grassland; 15–200 m	May–Oct	Pennington; habitat present in annual grasslands
Subtle orache *Atriplex subtilis*	–/–/1B.2/–	Central Valley, especially San Joaquin Valley with occurrences in Butte, Fresno, Kings, Kern, Madera, Merced, and Tulare Counties	Alkali scalds and alkali grasslands, often near vernal pools; 40–100 m	Jun-Sep	Pennington; habitat present in annual grasslands
Mexican mosquito fern *Azolla microphylla*	–/–/4.2/–	Scattered occurrences all throughout California	Slow-water marshes, ponds, and swamps; 30–100 m	Aug	Biggs, Llano Seco, Loma Rica, Nelson, Oroville, Palermo, Paradise West; habitat present in ponds and freshwater marsh
Big-scale balsamroot *Balsamorhiza macrolepis*	–/–/1B.2/–	Scattered occurrences in the Coast Ranges and Sierra Nevada foothills	Chaparral, cismontane woodland, valley and foothill grassland, sometimes on serpentine soils; 40–1,555 m	Mar–Jun	Brush Creek, Chico, Shippee; habitat present in annual grasslands and chaparral
Resin birch *Betula glandulosa*	–/–/2B.2/–	Cascade Range and Warner Mountains	Bogs and fens, meadows and seeps, marshes and swamps, and mesic areas in lower montane coniferous forest and subalpine coniferous forest; 1,300–2,300 m	May-Jul	Jonesville; habitat present in wet meadow and coniferous forest
Upswept moonwort *Botrychium ascendens*	–/–/2B.3/–	Butte and El Dorado Counties	Lower montane coniferous forest, in grassy fields and near springs and creeks; 1,115–3,045 m	Jul–Aug	Butte Meadows, Jonesville; habitat present in coniferous forest, wet meadow, and along drainages
Scalloped moonwort *Botrychium crenulatum*	–/–/2B.2/–	Scattered occurrences in mountains of California	Lower montane coniferous forest, in moist meadows, bogs and fens, freshwater marsh, and near creeks; 1,268–3,280 m	Jun–Sep	Butte Meadows, Cascade, Humboldt Peak, Jonesville, Kimshew Point; habitat present in coniferous forest, wet meadow, freshwater marsh, and along drainages

Common and Scientific Name	Legal Status[a] Federal/ State/ CNPS/HCP	Geographic Distribution/ Floristic Province	Habitat Requirements	Blooming Period	Quadrangles with Recorded Occurrences of Species[b] and Habitat in the Planning Area
Mingan moonwort *Botrychium minganense*	–/–/2B.2/–	High Cascade Range and southern high Sierra Nevada	Lower montane coniferous forest, on creek banks; 1,455–2,180 m	Jul–Sep	Belden, Butte Meadows, Cascade, Humboldt Peak, Jonesville, Kimshew Point, Soapstone Hill; habitat present in coniferous forest along drainages
Western goblin *Botrychium montanum*	–/–/2B.1/–	Butte County	Lower montane coniferous forest, on creek banks; 1,4555–2,180 m	Jul–Sep	Belden, Humboldt Peak, Jonesville, Kimshew Point; habitat present in coniferous forest along drainages
Watershield *Brasenia schreberi*	–/–/2B.3/–	Northern Coast Ranges, central Great Valley, northern and central Sierra Nevada, Modoc plateau	Freshwater marshes and swamps; 0–2,200 m	Jun–Sep	Llano Seco*; habitat present in freshwater marsh
Valley brodiaea *Brodiaea rosea* ssp. *vallicola*	–/–/4.2/–	Endemic to the northern and central Great Valley	Old alluvial terraces; silty, sandy, and gravelly loam soils in swales, valley and foothill grasslands, and vernal pools; 10–355 m	Apr–May	Cherokee, Chico, Hamlin Canyon, Honcut, Nord, Shippee; habitat present in swales, vernal pools, and annual grasslands
Sierra foothills brodiaea *Brodiaea sierrae*	–/–/4.3/–	Endemic to the northern Sierra Nevada foothills	Usually serpentinite or gabbroic soils in chaparral, cismontane woodland, and lower montane coniferous forest; 50–980 m	May–Aug	Bangor, Berry Creek. Cherokee, Clipper Mills, Forbestown, Loma Rica, Oroville, Oroville Dam, Paradise East, Pulga, Rackerby; habitat present in chaparral, woodlands, and coniferous forest
Brassy bryum *Bryum chryseum*	–/–/4.3/–	Scattered occurrences in Amador, Butte, Fresno, Madera, and Mendocino counties	Openings in chaparral, cismontane woodlands, and valley and foothill grasslands; 50–600 m	Non-flowering	Shippee; habitat present in chaparral, woodlands, and annual grassland
Thread-leaved beakseed *Bulbostylis capillaris*	–/–/4.2/–	Northern and central high Sierra Nevada	Meadows and seeps in montane coniferous forest; 395–2,075 m	Jun–Aug	Berry Creek, Brush Creek, Cherokee, Forbestown, Haskins Valley, Kimshew Point, Oroville; habitat present in wet meadows
Callahan's mariposa lily *Calochortis syntrophus*	–/–/1B.1/–	Klamath Ranges, Cascade Range Foothills, High Cascade Range	Cismontane woodland and vernally mesic valley and foothill grassland; 525-1,145 m	May–Jun	Devils Parade Ground; habitat present in woodlands, annual grasslands, and vernal pools

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Butte County calycadenia *Calycadenia oppositifolia*	–/–/4.2/–	Endemic to Butte County	Typically volcanic, granitic, or serpentine soils in chaparral, oak woodland, lower montane coniferous forest, cismontane woodland, meadows and seeps, openings in valley and foothill grasslands; 90–945 m	Apr–Jul	Bangor, Berry Creek, Butte Meadows, Cherokee, Chico, Hamlin Canyon, Oroville, Oroville Dam, Paradise East, Paradise West, Pulga, Richardson Springs; habitat present in chaparral, woodlands, coniferous forests, meadows and seeps, and annual grasslands
Butte County morning glory *Calystegia atriplicifolia* ssp. *buttensis*	–/–/4.2/–	Cascade Range foothills	Lower montane coniferous forest, on dry, mostly open slopes, at 565–1,524 m	May–Jul	Butte Meadows, Cohasset, Devils Parade Ground, Kimshew Point, Paradise East, Paradise West, Stirling City; habitat present in coniferous forest
Flagella-like atractylocarpus *Campylopodiella stenocarpa*	–/–/2B.2/–	Northern Cascade Range and Northern Sierra Nevada foothills	Roadsides and cismontane woodland; 100–500 m	Non-flowering	Richardson Springs; habitat present along roadsides and in woodlands
Dissected-leaved toothwort *Cardamine pachystigma* var. *dissectifolia*	–/–/1B.2/–	Sierra Nevada foothills and interior North Coast Ranges	Serpentine outcrops; 255–2,100	Feb–May	Berry Creek, Cherokee, Clipper Mills, Cohasset, Paradise East, Paradise West, Pulga, Stirling City; habitat present in chaparral and coniferous forest
Sierra arching sedge *Carex cyrtostachya*	–/–/1B.2/–	Endemic to the Northern Sierra Nevada with occurrences in Butte, El Dorado, and Yuba counties	Mesic soils in lower montane coniferous forest, meadows and seeps, marshes and swamps, riparian forest margins; 610–1,360 m	May–Aug	Brush Creek. Clipper Mills; habitat present in conifer forest, wet meadows, and riparian woodland margins
Davy's sedge *Carex davyi*	–/–/1B.3/–	Northern and central Sierra Nevada	Subalpine coniferous forest and upper montane coniferous forest; 1,500–3,200 m	May–Aug	Belden, Jonesville; habitat present in coniferous forest
Geyer's sedge *Carex geyeri*	–/–/4.2/–	Klamath Ranges and northern Sierra Nevada	Great Basin scrub, lower montane coniferous forest; 1,155–2,195 m	May–Aug	Butte Meadows; habitat present in coniferous forest
Shore sedge *Carex limosa*	–/–/2B.2/–	High Sierra Nevada	Montane coniferous forest, in floating bogs, soggy meadows, and edges of lakes; 1,200–2,700 m	Jun–Aug	Belden, Butte Meadows, Humboldt Peak, Jonesville; habitat present in wet meadow, high-elevation pond, and coniferous forest

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Chaparral sedge *Carex xerophila*	–/–/1B.2/–	Endemic to the northern Sierra Nevada foothills	Serpentinite, gabbroic soils in chaparral, cismontane woodland, lower montane coniferous forest; 440–770 m	Mar–Jun	Paradise East, Rackerby; habitat present in chaparral, woodlands, and coniferous forest
Pink creamsacs *Castilleja rubicundula* ssp. *rubicundula*	–/–/1B.2/–	Inner North Coast Ranges with occurrences in Butte, Colusa, Glenn, Lake, and Napa Counties	Serpentine soils in chaparral openings, cismontane woodland, meadows and seeps, valley and foothill grassland; 20–910 m	Apr–Jun	Hamlin Canyon*, Nord*, Oroville*, Pennington; habitat present in chaparral and annual grasslands
Pappose tarplant *Centromadia parryi* ssp. *parryi*	–/–/1B.2/–	North and Central Coast Ranges, the southern Sacramento Valley; occurrences in Butte, Colusa, Glenn, Lake, Napa, San Mateo, and Solano Counties.	Coastal prairie, meadows and seeps, coastal salt marshes and swamps, alkaline soils in vernally mesic valley and foothill grassland; 0–420 m	May–Nov	Pennington; habitat present in annual grassland and vernal pools
Parry's rough tarplant *Centromadia parryi* ssp. *rudis*	–/–/4.2/–	Northern and central Great Valley, San Joquain Valley, and Modoc Plateau	Alkaline, vernally mesic, seeps, sometimes roadsides in valley and foothill grasslands, and vernal pools; 0–100 m	May–Oct	Butte City, Glenn, Llano Seco, Pennington, West of Biggs; habitat present in annual grassland and vernal pools
Brandegee's clarkia *Clarkia biloba* ssp. *brandegeeae*	–/–/4.2/–	Northern Sierra Nevada foothills from Butte to El Dorado Counties	Chaparral, cismontane woodland, often on roadcuts; 75–1,085 m	May–Jul	Bangor, Forbestown, Oroville, Oroville Dam; habitat present in chaparral and oak woodland
White-stemmed clarkia *Clarkia gracilis* ssp. *albicaulis*	–/–/1B.2/–	Southern Cascade Range foothills with occurrences in Butte and Tehama Counties	Chaparral and cismontane woodland, sometimes on serpentine soils; 245–1,085 m	May–Jul	Berry Creek, Cherokee, Cohasset, Devils Parade Ground, Forbestown, Paradise East, Paradise West, Pulga, Richardson Springs, Stirling City; habitat present in chaparral and oak woodland
Golden-anthered clarkia *Clarkia mildrediae* ssp. *lutescens*	–/–/4.2/–	Endemic to the northern Sierra Nevada foothills; Butte, Plumas, Sierra, and Yuba counties	Often roadcuts, often rocky soils in cismontane woodlands and openings in lower montane coniferous forest; 275–1,750 m	Jun–Aug	American House, Berry Creek. Brush Creek, Cascade, Clipper Mills, Paradise East, Pulga, Soapstone Hill, Strawberry Valley; habitat present in woodlands and openings in coniferous forest

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Mildred's clarkia *Clarkia mildrediae* ssp. *mildrediae*	–/–/1B.3/–	Southern Cascade Ranges, northern Sierra Nevada, and Feather River drainage with occurrences in Butte, Plumas, and Yuba Counties	Sandy or granitic soils in shaded areas in cismontane woodland, lower montane coniferous forest; 245–1,710 m	May–Aug	Belden, Berry Creek, Brush Creek, Cascade, Cohasset, Haskins Valley, Kimshew Point, Paradise East, Pulga, Soapstone Hill, Stirling City; habitat present in oak woodlands and coniferous forest
Mosquin's clarkia *Clarkia mosquinii*	–/–/1B.1/–	Northern Sierra Nevada foothills in vicinity of Feather River Canyon near Pulga in northeastern Butte County	Rocky, roadside areas in cismontane woodland and lower montane coniferous forest; 185–1,490 m	May–Jul	Berry Creek, Brush Creek, Cascade, Cherokee, Clipper Mills, Forbestown, Oroville Dam, Pulga, Soapstone Hill, Stirling City, Strawberry Valley; habitat present in oak woodlands and coniferous forest
Marsh claytonia *Claytonia palustris*	–/–/4.3/–	Klamath Ranges, Cascade Range, northern and central high Sierra Nevada	Wet meadows, seeps, marshes, swamps; 1,000–2,500 m	May–Oct	Butte Meadows, Chico, Cohasset, Hamlin Canyon, Humboldt Peak, Jonesville, Paradise West, Stirling City; habitat present in wet meadows and freshwater marsh
Streambank spring beauty *Claytonia parviflora* ssp. *grandiflora*	–/–/4.2/–	Endemic to the northern, central, and southern Sierra Nevada foothills	Rocky soils in cismontane woodland; 250–1,200 m	Feb–May	Berry Creek, Paradise East; habitat present in woodlands
California lady's-slipper *Cypripedium californicum*	–/–/4.2/–	Klamath Ranges, northern outer North Coast Ranges, western Cascade Range, northern Sierra Nevada, and northwestern San Francisco Bay Area	Bogs and fens, seeps and streambanks in lower montane coniferous forest, usually on serpentine; 30–2,750 m	Apr–Aug	Belden, Berry Creek, Brush Creek, Cascade, Haskins Valley, Kimshew Point, Paradise East, Pulga, Soapstone Hill, Stirling City, Strawberry Hill; habitat present in wet meadows and coniferous forest
Clustered lady's-slipper *Cypripedium fasciculatum*	–/–/4.2/–	Northern Cascade Ranges, northern Coast Ranges, Modoc Plateau, and northern Sierra Nevada	Usually serpentinite seeps and streambanks in lower montane coniferous forest and North Coast coniferous forest; 100–2,435 m	Mar–Aug	American House, Belden, Berry Creek, Brush Creek, Cascade, Clipper Mills, Haskins Valley, Paradise East, Pulga, Soapstone Hill, Stirling City, Strawberry Valley; habitat present in wet meadow and coniferous forest

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Cypripedium montanum	–/–/4.2/–	Klamath Ranges, Coast ranges, Cascade Range foothills and high Cascade Range, High Sierra Nevada, San Francisco Bay Area, Warner Mountains, and Modoc Plateau.	Broadleafed upland forest, cismontane woodland, lower montane coniferous forest, and North Coast coniferous forest; 185–2,225 m	Mar–Aug	No recorded occurrences; habitat potentially present in coniferous forest and woodlands
California pitcherplant *Darlingtonia californica*	–/–/4.2/–	Klamath Ranges, Cascade Range, northern high Sierra Nevada	Bogs, fens, wet meadows, seeps, generally on serpentine; 0–2,585 m	Apr–Aug	American House, Jonesville, Strawberry Valley; habitat present in wet meadows
Recurved larkspur *Delphinium recurvatum*	–/–/1B.2/–	Central Valley from Colusa* to Kern Counties	Alkaline soils in valley and foothill grassland, saltbush scrub, cismontane woodland; 3–790 m	Mar–Jun	Nelson*, Shippee*; habitat present in annual grasslands and oak woodlands
Swamp larkspur *Delphinium uliginosum*	–/–/4.2/–	Inner North Coast ranges	Serpentine seeps in chaparral and valley and foothill grassland; 340–610 m	May–Jun	Butte Meadows; habitat present in annual grassland and chaparral
English sundew *Drosera anglica*	–/–/2B.3/–	Scattered locations in Klamath Ranges, Cascade Range, northern high Sierra Nevada, and Warner Mountains	Bogs and fens, meadows and seeps; 1,300–2,255 m	Jun–Sep	Belden, Butte Meadows; habitat present in wet meadows
Clifton's eremogone *Eremogone cliftonii*	–/–/1B.3/–	Northern Sierra Nevada and foothills	Granitic and ultramafic openings in chaparral, lower montane coniferous forest, and upper montane coniferous forest; 455–2,080 m	Apr–Sep	Belden, Brush Creek, Cascade, Haskins Valley, Jonesville, Kimshew Point, Pulga, Soapstone Hill; habitat present in chaparral and coniferous forest
Hot rock daisy *Erigeron inornatus* var. *calidipetris*	–/–/4.3/–	Cascade Range and Modoc Plateau	Volcanic sand, in lower montane coniferous forest; 1,100–1,935 m	Jun–Sep	Butte Meadows, Jonesville; habitat present in coniferous forest
Northern Sierra daisy *Erigeron petrophilus* var. *sierrensis*	–/–/4.3/–	Northern Sierra Nevada foothills	Cismontane woodland, montane coniferous forest, sometimes on serpentine; 300–2,073 m	Jun–Oct	Belden, Clipper Mills, Haskins Valley, Jonesville, Paradise East, Pulga, Soapstone Hill; habitat present in coniferous forest
Ahart's buckwheat *Eriogonum umbellatum* var. *ahartii*	–/–/1B.2/–	Endemic to the Northern Sierra Nevada in Butte, Plumas, Sierra, and Yuba counties	Serpentinite soils, slopes, and openings in chaparral and cismontane woodland; 400–2,000 m	Jun–Sep	Berry Creek, Cascade, Cherokee, Clipper Mills, Cohasset, Paradise East, Paradise West, Pulga, Soapstone Hill, Stirling City; habitat present in chaparral and woodlands

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Slender cottongrass *Eriophorum gracile*	–/–/4.3/–	Scattered occurrences throughout the northern Coast Ranges and northern Sierra Nevada	Acidic soils in bogs and fens, meadows and seeps, and upper montane coniferous forest; 1,280–2,900 m	May–Sep	Belden, Butte Meadows, Jonesville, Kimshew Point; habitat present in wet meadow, and coniferous forests
Fern-leaved monkeyflower *Erythranthe filicifolia*	–/–/1B.2/–	Endemic to Butte and Plumas counties	Ephemeral seeps (usually slow draining) among exfoliating granitic slabs in chaparral, lower montane coniferous forest, ephemeral meadows and seeps; 415–1,710 m	Apr–Jun	American House, Berry Creek, Brush Creek, Cascade, Clipper Mills, Pulga, Soapstone Hill; habitat present in chaparral, coniferous forest, and wet meadow
Shield-bracted monkeyflower *Erythranthe glaucescens*	–/–/4.3/–	Southern Cascade Range foothills and northern Sierra Nevada foothills	Serpentine seeps in valley and foothill grassland, chaparral, cismontane woodland, lower montane coniferous forest; 60–1,240 m	Feb–Aug	Berry Creek, Butte Meadows, Campbell Mound, Cherokee, Chico, Cohasset, Devils Parade Ground, Hamlin Canyon, Honcut, Humboldt Peak, Jonesville, Loma Rica, Nord, Oroville Dam, Paradise East, Paradise West, Pulga, Richardson Springs, Stirling City; habitat present in annual grassland, chaparral, oak woodlands, and coniferous forest
Small-flowered monkeyflower *Erythranthe inconspicua*	–/–/4.3/–	Endemic to the northern and central Sierra Nevada foothills	Mesic soils in chaparral, cismontane woodlands, and lower montane coniferous forests; 274–760 m	May–Jun	Berry Creek, Cherokee; habitat present in chaparral, woodlands, and coniferous forest
Hoover's spurge *Euphorbia hooveri*	T/–/1B.2/CS	Endemic to the central and southern Great Valley in Butte, Colusa, Glenn, Merced, Stanislaus, Tehama, and Tulare counties	Vernal pools; 25–250 m	Jul–Sep	Hamlin Canyon, Nord, Richardson Springs NW, Vina; habitat present in vernal pools
Minute pocket moss *Fissidens pauperculus*	–/–/1B.2/–	North Coast Ranges, San Francisco Bay Area, and several disjunct occurrences throughout Butte, Nevada, and Plumas counties	Damp coastal soils in North Coast coniferous forest; 10–1,024 m	Non-flowering	Brush Creek, Clipper Mills, Forbestown; habitat present in damp soils within coniferous forest
Caribou coffeeberry *Frangula purshiana* ssp. *ultramafica*	–/–/1B.2/–	Endemic to the Northern Sierra Nevada in Butte, Plumas, and Sierra counties	Serpentinite soils in chaparral, lower montane coniferous forest, meadows and seeps, upper montane coniferous forest; 825–1,930 m	May–Jul	Belden, Haskins Valley, Paradise East, Pulga, Soapstone Hill; habitat present in chaparral and coniferous forests

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Butte County fritillary *Fritillaria eastwoodiae*	–/–/3.2/–	Sierra Nevada foothills from Shasta to Yuba Counties	Chaparral, cismontane woodland, and openings in lower montane coniferous forest, sometimes on serpentine; 50–1,500 m	Mar–Jun	Berry Creek, Brush Creek, Cascade, Cherokee, Chico*, Clipper Mills, Cohasset, Forbestown, Hamlin Canyon, Kimshew Point, Oroville, Oroville Dam, Paradise East, Paradise West, Pulga, Stirling City; habitat present in chaparral, oak woodlands, and coniferous forest
Adobe-lily *Fritillaria pluriflora*	–/–/1B.2/–	Northern Sierra Nevada foothills, Inner North Coast Ranges, and edges of Sacramento Valley	Often adobe soils in chaparral, cismontane woodland, valley and foothill grassland; 60–705 m	Feb–Apr	Chico, Nord*, Richardson Springs, Richardson Springs NW, Shippee; habitat present in chaparral, oak woodlands, and annual grasslands
Serpentine buttercup *Githopsis pulchella* spp. *serpentinicola*	–/–/4.3/–	Northern and Central Sierra Nevada Foothills	Loam and serpentine substrates in cismontane woodland; 320-610 m	May–Jun	Cherokee; habitat present in oak woodlands
Hogwallow starfish *Hesperevax caulescens*	–/–/4.2/–	Endemic to California; scattered occurrences throughout California	Mesic, clay, sometimes alkaline soils in valley and foothill grasslands and shallow vernal pools; 0–505 m	Mar–Jun	Biggs, Cherokee, Hamlin Canyon, Honcut, Loma Rica, Nord, Pennington, Richardson Springs, Richardson Springs NW, Shippee, Vina; habitat present in annual grassland and vernal pools
Baker cypress *Hesperocyparis bakeri*	–/–/4.2/–	Klamath Ranges, high Cascade Range, high Sierra Nevada, Warner Mountains, and Modoc Plateau	Serpentine or volcanic substrates of chaparral and lower montane coniferous forest; 820–1,995 m	Non-flowering	Paradise East; habitat present in chaparral and coniferous forest
Water star-grass *Heteranthera dubia*	–/–/2B.2/–	Small portion of the southern Cascade Range within Fall River Mills, northern Great Valley, San Francisco Bay area, Modoc Plateau	Requires a pH of 7 or higher, usually in slightly eutrophic waters, alkaline, still or slow-moving water in marshes and swamps; 30–1,495 m	Jul–Oct	Pennington, Sanborn Slough; habitat present in freshwater marsh
Rose-mallow *Hibiscus lasiocarpos* var. *occidentalis*	–/–/1B.2/–	Central and southern Sacramento Valley, deltaic Central Valley, and elsewhere in the United States	Freshwater marsh along rivers and sloughs; 0–120 m	Jun–Sep	Butte City, Hamlin Canyon, Llano Seco, Nelson, Ord Ferry, Oroville, Paradise West, Pennington, Richardson Springs, Sanborn Slough, Shippee, West of Biggs; habitat present within freshwater marsh along drainages and flooded agricultural fields

Common and Scientific Name	Legal Status[a] Federal/ State/ CNPS/HCP	Geographic Distribution/ Floristic Province	Habitat Requirements	Blooming Period	Quadrangles with Recorded Occurrences of Species[b] and Habitat in the Planning Area
California satintail *Imperata brevifolia*	–/–/2B.1/–	Scattered occurrences throughout northern and southern California ranging from the northern Sierra Nevada, southern Great Valley, Transverse Ranges, Mojave Desert, and Peninsular Ranges	Mesic soils in chaparral, coastal scrub, Mojavean desert scrub, alkali meadows and seeps, riparian scrub; 0–1,215 m	Sep–May	Campbell Mound, Paradise West, Richardson Springs; habitat present in chaparral, and wet meadow
Ahart's dwarf rush *Juncus leiospermus* var. *aharti*	–/–/1B.2/–	Eastern Sacramento Valley, northeastern San Joaquin Valley with occurrences in Butte, Calaveras, Placer, Sacramento, and Yuba Counties	Wet areas in valley and foothill grassland, vernal pool margins; 30–299 m	Mar–May	Biggs, Honcut, Loma Rica, Palermo; habitat present in annual grasslands and vernal pools
Red Bluff dwarf rush *Juncus leiospermus* var. *leiospermus*	–/–/1B.1/–	Northern Sacramento Valley and Cascade Range foothills with occurrences in Butte, Shasta, and Tehama Counties	Seasonally wet areas in chaparral, cismontane woodland, meadows and seeps, valley and foothill grassland, vernal pools; 35–1,250 m	Mar–Jun	Campbell Mound, Cherokee, Oroville, Richardson Springs, Shippee; habitat present in chaparral, oak woodlands, annual grasslands, and vernal pools.
Ferris' goldfields *Lasthenia ferrisiae*	–/–/4.2/–	Endemic to California; scattered occurrences in northern and southern California	Alkaline and clay vernal pools; 20–700 m	Feb–May	Nelson; habitat present in vernal pools
Colusa layia *Layia septentrionalis*	–/–/1B.2/–	Northern Coast Ranges, Great Valley, and Lake Oroville	Sandy or serpentinite soils within chaparral, cismontane woodland, and valley and foothill grassland; 100–1095 m	Apr–May	Cherokee; habitat present in chaparral, woodlands, and annual grassland
Bristly leptosiphon *Leptosiphon acicularis*	–/–/4.2/–	Endemic to the north Coast Ranges and San Francisco Bay area	Chaparral, cismontane woodland, coastal prairie, valley and foothill grassland; 55–1,500 m	Apr–Jul	Honcut, Loma Rica, Palermo; habitat present in woodlands and annual grassland
Serpentine leptosiphon *Leptosiphon ambiguus*	–/–/4.2/–	San Joaquin Valley, San Francisco Bay Area, Inner South Coast Ranges, Sacramento Valley, Cascade Range foothills	Cismontane woodland, coastal prairie, valley and foothill grassland; 120–1,130 m	Mar–Jun	Hamlin Canyon, Paradise East; habitat present in woodlands and annual grassland
Cantelow's lewisia *Lewisia cantelovii*	–/–/1B.2/–	Canyons of the Sacramento River, North and Middle Forks of the Feather River, and Yuba River	Moist areas on serpentine or granite in chaparral, cismontane woodland, broadleaved upland forest, lower montane coniferous forest; 330–1,370 m	May–Oct	Belden, Brush Creek, Pulga, Soapstone Hill, Strawberry Valley; habitat present in chaparral, oak woodlands, and coniferous forest

Common and Scientific Name	Legal Status[a] Federal/ State/ CNPS/HCP	Geographic Distribution/ Floristic Province	Habitat Requirements	Blooming Period	Quadrangles with Recorded Occurrences of Species[b] and Habitat in the Planning Area
Hutchison's lewisia *Lewisia kelloggii* ssp. *hutchisonii*	–/–/3.2/–	Northern Sierra Nevada	Openings in upper montane coniferous forest; 765-2,365 m	May–Aug	American House, Butte Meadows, Haskins Valley, Jonesville; habitat present in coniferous forest
Humboldt lily *Lilium humboldtii* ssp. *humboldtii*	–/–/4.2/–	Southern Cascade Range and high Sierra Nevada	Openings in chaparral, cismontane woodland, lower montane coniferous forest; 00-1,280 m	May–Jul	Berry Creek, Butte Meadows, Clipper Mills, Cohasset, Devils Parade Ground, Forbestown, Oroville, Oroville Dam, Paradise East, Paradise West, Stirling City, Strawberry Valley; habitat present in chaparral, oak woodland, and coniferous forest
Butte County meadowfoam *Limnanthes floccosa ssp. californica*	E/E/1B.1/CS	Endemic to Butte County	Wet areas in valley and foothill grassland, vernal pools and swales; 46–930 m	Mar–May	Chico, Nord, Oroville, Richardson Springs, Shippee; habitat present in annual grasslands and vernal pools
Woolly meadowfoam *Limnanthes floccosa* ssp. *floccosa*	–/–/4.2/–	Northern Sacramento Valley and Cascade Range foothills, from Siskiyou to Butte County	Vernal pools and swales; 60–1,335 m	Mar–May	Campbell Mound, Nord, Palermo, Richardson Springs, Richardson Springs NW, West of Biggs; habitat present in vernal pools
Three-ranked hump moss *Meesia triquetra*	–/–/4.2/–	Sierra Nevada range, north Coast Range (Humboldt county), and Modoc Plateau	On soil in bogs and fens, meadows and seeps, subalpine coniferous forest, and mesic soils in upper montane coniferous forest; 1,300–2,953 m	July	Belden, Humboldt Peak, Jonesville; habitat present in wet meadow and coniferous forests
Broad-nerved hump moss *Meesia uliginosa*	–/–/2B.2/–	Scattered occurrences throughout California, primarily in Sierra Nevada and southern Cascade Range.	Damp soils in bogs and fens, meadows and seeps, subalpine coniferous forest, and upper montane coniferous forest; 1,210–2,804 m	Jul–Oct	Belden, Humboldt Peak, Jonesville; habitat present in damp soils within wet meadow, coniferous forest
Sylvan microseris *Microseris sylvatica*	–/–/4.2/–	Endemic to California; scattered occurrences throughout northern and southern California	Chaparral, cismontane woodland, Great Basin scrub, pinyon and juniper woodland, serpentinite soils in valley and foothill grassland; 45–1,500 m	Mar–Jun	Oroville Dam; habitat present in woodlands and annual grassland

Common and Scientific Name	Legal Status[a] Federal/ State/ CNPS/HCP	Geographic Distribution/ Floristic Province	Habitat Requirements	Blooming Period	Quadrangles with Recorded Occurrences of Species[b] and Habitat in the Planning Area
Elongate copper moss *Mielichoferia elongata*	–/–/4.3/–	Scattered occurrences throughout northern and central California	On metamorphic rock that is usually acidic, vernally mesic, often on roadsides, and sometimes carbonate in broadleaf upland forest, chaparral, cismontane woodland, coastal scrub, lower montane coniferous forest, meadows and seeps, and subalpine coniferous forest; 0–1,960 m	Non-flowering	Cherokee; habitat present in chaparral, woodlands, coniferous forest, and wet meadows
Veiny monardella *Monardella venosa*	–/–/1B.1/–	Occurrences in the northern and central Sierra Nevada foothills; also historically known from the Sacramento Valley	Clay soils in cismontane woodland, valley and foothill grassland; 60–410 m	May–Jul	Cherokee, Hamlin Canyon; habitat present in annual grassland and oak woodlands
Tehama navarretia *Navarretia heterandra*	–/–/4.3/–	Interior North Coast Ranges, Cascade Range foothills, western Sacramento Valley, eastern San Francisco Bay Area, interior South Coast Ranges, and Modoc Plateau	Mesic areas in valley and foothill grasslands, vernal pools; 30–1,010 m	Apr–Jun	Hamlin Canyon, Nord, Richardson Springs, Richardson Springs NW, Shippee, Vina; habitat present in annual grassland and vernal pools
Hairy Orcutt grass *Orcuttia pilosa*	E/E/1B.1/CS	Scattered locations along eastern edge of Central Valley and adjacent foothills from Tehama to Merced Counties	Vernal pools; 46–200 m	May–Sep	Hamlin Canyon (unconfirmed)^; habitat present in vernal pools
Slender Orcutt grass *Orcuttia tenuis*	T/E/1B.1/CS	Sierra Nevada and Cascade Range foothills from Siskiyou to Sacramento Counties	Vernal pools; 35–1,760 m	May–Sep	Palermo, Richardson Springs NW, Vina; habitat present in vernal pools
Tall alpine-aster *Oreostemma elatum*	–/–/1B.2/–	Northern Sierra Nevada	Mesic soils in bogs, fens, meadows, seeps, upper montane coniferous forest; 1,005–2,100 m	Jun–Aug	Belden, Jonesville; habitat present in wet meadow and coniferous forests
Lewis Rose's ragwort *Packera eurycephala* var. *lewisrosei*	–/–/1B.2/–	Northern Sierra Nevada and foothills	Serpentinite soils in chaparral, cismontane woodland, lower montane coniferous forest; 274–1890 m	Mar–Jul	Belden, Berry Creek, Cherokee, Jonesville, Paradies East, Pulga, Soapstone Hill; habitat present in chaparral, woodlands, and coniferous forest
Layne's ragwort *Packera layneae*	T/R/1B.2/–	Endemic to northern Sierra Nevada foothills; El Dorado, Placer, Tuolumne, and Yuba counties	Serpentinite or gabbroic, rocky soils in chaparral and cismontane woodland; 200–1,085 m	Apr–Aug	No recorded occurrences; habitat potentially present in chaparral and woodlands

Common and Scientific Name	Legal Status[a] Federal/ State/ CNPS/HCP	Geographic Distribution/ Floristic Province	Habitat Requirements	Blooming Period	Quadrangles with Recorded Occurrences of Species[b] and Habitat in the Planning Area
Ahart's paronychia *Paronychia ahartii*	–/–/1B.1/–	Northern Central Valley in Butte, Shasta, and Tehama Counties	Cismontane woodland, valley and foothill grassland, vernal pools; 30–510 m	Feb–Jun	Honcut, Oroville, Richardson Springs, Richardson Springs NW, Shippee, Vina; habitat present in annual grasslands, oak woodlands, and vernal pools
Western waterfan lichens *Peltigera gowardii*	–/–/4.2/–	Sierra Nevada	On rocks in cold water creeks with little or no sediment or disturbance in riparian forest; 1,065–2,620 m	Non-flowering	American House, Pulga, Soapstone Hill, Strawberry Valley; habitat present along drainages in riparian woodlands
Shasta beardtongue *Penstemon heterodoxus* var. *shastensis*	–/–/4.3/–	Cascade Range: Siskiyou County to Plumas County	Dry meadows, outcrops, in chaparral, montane coniferous forest; 1,100–2,400 m	May–Sep	Belden, Jonesville; habitat present in chaparral and coniferous forest
Closed-throated beardtongue *Penstemon personatus*	–/–/1B.2/–	Northern Sierra Nevada	Chaparral, montane coniferous forest, on metavolcanic substrates; 1,065–2,120 m	Jun–Sep	Haskins Valley, Kimshew Point, Paradise East, Pulga, Stirling City; habitat present in chaparral and coniferous forest
Bacigalupi's yampah *Perideridia bacigalupii*	–/–/4.2/–	Endemic to the Sierra Nevada foothills	Serpentinite soils of lower montane coniferous forest and chaparral; 450–1,035 m	Jun–Aug	Berry Creek, Clipper Mills, Forbestown, Rackerby; habitat present in coniferous forests and chaparral
Coleman's rein orchid *Piperia colemanii*	–/–/4.3/–	Endemic to the Modoc Plateau and northern Sierra Nevada	Sandy soils in chaparral and lower montane coniferous forest; 1,200–2,300 m	Jun–Aug	Cascade, Soapstone Hill, Stirling City; habitat present in chaparral and coniferous forests
Wine-colored tufa moss *Plagiobryoides vinosula*	–/–/4.2/–	Scattered occurrences throughout California	Usually in granitic rock or granitic soil along seeps and streams, sometimes in clay; 30–1,735 m	Non-flowering	Biggs; habitat present in wet meadows and drainages
Sierra blue grass *Poa sierrae*	–/–/1B.3/–	Endemic to the Northern Sierra Nevada and southern Cascade Range	Openings in lower montane coniferous forest; 365–1,500 m	Apr–Jul	Berry Creek, Brush Creek. Cascade, Forbestown, Pulga, Soapstone Hill; habitat present in coniferous forest

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Bidwells' knotweed *Polygonum bidwelliae*	–/–/4.3/–	Cascade Range foothills and northern Sierra Nevada foothills	Valley and foothill grassland, chaparral, cismontane woodland; 60–1,200 m	Apr–Jul	Campbell Mound, Cherokee, Devils Parade Ground, Paradise East, Paradise West, Richardson Springs, Shippee; habitat present in annual grassland, chaparral, and oak woodland
California alkali grass *Puccinellia simplex*	–/–/1B.2/–	Scattered occurrences all throughout Butte to San Bernardino counties	Chenopod scrub, meadows and seeps, valley and foothill grassland, vernal pools, alkaline and vernally mesic sinks, flats, and lake margins; 2–930 m	Mar–May	Pennington; habitat present in wet meadows, annual grassland, and reservoir margins
Alder buckthorn *Rhamnus alnifolia*	–/–/2B.2/–	Northern Sierra Nevada	Lower montane coniferous forest, meadows and seeps, riparian scrub, upper montane coniferous forest; 1,370–2,130 m	May–Jul	Soapstone Hill; habitat present in coniferous forest, wet meadow, and riparian woodland
California beaked-rush *Rhynchospora californica*	–/–/1B.1/–	Scattered occurrences in northwestern California, northern and central Sierra Nevada foothills, and northern San Francisco Bay	Bogs and fens, meadows and seeps, lower montane coniferous forest, freshwater marshes and swamps; 45–1,010 m	May–Jul	Paradise West, Richardson Springs; habitat present in wet meadow, freshwater marsh, and coniferous forest
Brownish beaked-rush *Rhynchospora capitellata*	–/–/2B.2/–	Scattered occurrences in Northwestern California and northern Sierra Nevada foothills	Freshwater marshes and seeps; 45–2,000 m	Jul–Aug	Brush Creek, Cascade, Clipper Mills, Kimshew Point, Paradise West, Pulga; habitat present in freshwater marsh and wet meadow
Hall's rupertia *Rupertia hallii*	–/–/1B.2/–	Sierra Nevada foothills: Butte and Tehama Counties	Cismontane woodland, lower montane coniferous forest, on disturbed soils of roadsides and logged forests; 545–2,250 m	Jun–Aug	Butte Meadows, Cohasset, Devils Parade Ground, Stirling City; habitat present in oak woodland and coniferous forest
Sanford's arrowhead *Sagittaria sanfordii*	–/–/1B.2/–	Scattered locations in Central Valley and Coast Ranges	Freshwater marsh, sloughs, canals, and other slow-moving water habitats; 0–650 m	May–Oct	Berry Creek, Biggs, Gridley, Richarson Springs NW; habitat present in drainages and freshwater marsh
Tracy's sanicle *Sanicula tracyi*	–/–/4.2/–	Endemic to the northern Coast Ranges, Klamath Mountains, northern Sierra Nevada foothills	Openings within cismontane woodland, lower montane coniferous forest, and upper montane coniferous forest; 100–1,585 m	Apr–Jul	Brush Creek, Cascade, Clipper Mills; habitat present in woodlands and coniferous forest

Common and Scientific Name	Legal Status[a] Federal/ State/ CNPS/HCP	Geographic Distribution/ Floristic Province	Habitat Requirements	Blooming Period	Quadrangles with Recorded Occurrences of Species[b] and Habitat in the Planning Area
Water bulrush *Schoenoplectus subterminalis*	–/–/2B.3/–	Klamath Ranges and northern high Sierra Nevada	Montane coniferous forest, on lake margins, in shallow water; 750–2,250 m	Jun–Aug	Jonesville; habitat present in coniferous forest and along open water
Feather River stonecrop *Sedum albomarginatum*	–/–/1B.2/–	Endemic to the northern Sierra Nevada foothills of Plumas and Butte Counties	Serpentine soils in chaparral, lower montane coniferous forest; 260–1,950 m	May–Jun	Belden, Jonesville, Pulga; habitat present in chaparral and coniferous forest
Giant checkerbloom *Sidalcea gigantea*	–/–/4.3/–	Endemic to the northern Sierra Nevada	Meadows and seeps within lower and upper montane coniferous forests; 670–1,950 m	Jul–Oct	American House, Berry Creek, Cascade, Clipper Mills, Kimshew Point, Paradise East, Pulga, Soapstone Hill, Stirling City; habitat present in wet meadows and conifer forest
Butte County checkerbloom *Sidalcea robusta*	–/–/1B.2/CS	Endemic to Butte County	Chaparral, cismontane woodland; 90–1,600 m	Apr–Jun	Cherokee, Chico, Cohasset, Hamlin Canyon, Paradise West, Richardson Springs; habitat present in chaparral and oak woodland
Long-stiped campion *Silene occidentalis* ssp. *longistipitata*	–/–/1B.2/–	Southern high Cascade Range: Tehama and Butte Counties	Chaparral, montane coniferous forest, at 1,000–2,000 m	Jun–Aug	Belden, Butte Meadows, Humboldt Peak, Jonesville; habitat present in chaparral and coniferous forest
Western campion *Silene occidentalis* ssp. *occidentalis*	–/–/4.3/–	High Cascade Range, high Sierra Nevada, Warner Mountains, Modoc Plateau	Chaparral, upper and lower montane coniferous forest; 1,030–2,090 m	Jun–Aug	Jonesville; habitat present in coniferous forest
Long-leaved starwort *Stellaria longifolia*	–/–/2B.2/–	High Cascade Ranges: Shasta and Butte Counties	Meadows and seeps, riparian woodland, at 900–1,830 m	May–Aug	Butte Meadows, Haskins Valley, Humboldt Peak, Jonesville; habitat present in wet meadows and along drainages in riparian
Obtuse starwort *Stellaria obtusa*	–/–/4.3/–	Outer North Coast Ranges, Cascade Range, central Sierra Nevada foothills, northern and central high Sierra Nevada, and Modoc Plateau	Riparian woodland, mesic area in montane coniferous forest; 150–2,290 m	May–Sep	Belden, Berry Creek, Butte Meadows, Haskins Valley, Humboldt Peak, Jonesville, Kimshew Point, Soapstone Hill; habitat present in riparian woodland and coniferous forest along drainages

Common and Scientific Name	Legal Status[a] Federal/ State/ CNPS/HCP	Geographic Distribution/ Floristic Province	Habitat Requirements	Blooming Period	Quadrangles with Recorded Occurrences of Species[b] and Habitat in the Planning Area
Sickle-fruit jewelflower *Streptanthus drepanoides*	–/–/4.3/–	Southernmost Klamath Ranges, high North Coast Ranges, northern interior North Coast Ranges, and northern Sierra Nevada Foothills	Chaparral, cismontane woodland, lower montane coniferous forest, on serpentine; 275–1,660 m	Apr–Jun	Cherokee; habitat present in chaparral, oak woodland, and coniferous forest
Long-fruit jewelflower *Streptanthus longisiliquus*	–/–/4.3/–	Endemic to the northern Sierra Nevada and southern Cascade Range	Openings in cismontane woodland and lower montane coniferous forest; 715–1,500 m	Apr–Sep	Berry Creek, Devils Parade Ground, Humboldt Peak, Pulga; habitat present in woodlands and coniferous forest
Slender-leaved pondweed *Stuckenia filiformis* ssp. *alpina*	–/–/2B.2/–	San Joaquin Valley, San Francisco Bay area, and the central high Sierra Nevada	Assorted shallow freshwater marshes and swamps; 300–2,150 m	May–Jul	Chico; habitat present in freshwater marsh
Cylindrical trichodon *Trichodon cylindricus*	–/–/2B.2/–	North Coast, North Coast Ranges, Klamath Ranges, Northern High Sierra Nevada	Broadleaf upland forest, meadows and seeps, upper montane coniferous forest; 50–2,002 m	Non-flowering	Jonesville; habitat present in wet meadows and coniferous forest
Butte County golden clover *Trifolium jokerstii*	–/–/1B.2/–	Endemic to Butte County	Wet areas in valley and foothills grassland, vernal pools; 50–480 m	Mar–May	Oroville, Shippee; habitat present in annual grasslands and vernal pools
Greene's tuctoria *Tuctoria greenei*	E/R/1B.1/CS	Scattered distribution along eastern Central Valley and foothills from Shasta to Tulare Counties	Dry vernal pools; 30–1,070 m	May–Jul	Biggs*, Hamlin Canyon, Llano Seco, Nord*, Richardson Springs NW, Shippee; habitat present in vernal pools
Flat-leaved bladderwort *Utricularia intermedia*	–/–/2B.2/–	Scattered occurrences in Cascade Range, high Sierra Nevada, and Modoc Plateau	Bogs, meadows, seeps, marshes, lake margins, at 1,200–2,700 m	Jul–Aug	Butte Meadows, Jonesville; habitat present in wet meadows and along high-elevation open water
Lesser bladderwort *Utricularia minor*	–/–/4.2/–	Northern Sierra Nevada and one occurrence in Mono County	Calcium-rich water in bogs and fens and assorted shallow freshwater marshes and swamps; 800–2,900 m	Jul–Aug	Butte Meadows, Jonesville; habitat present in freshwater marshes
Siskiyou Mountains huckleberry *Vaccinium coccineum*	–/–/3.3/–	Klamath Ranges, high North Coast Ranges, high Sierra Nevada, Warner Mountains	Often on serpentinite substrates in upper and lower montane coniferous forest; 1,095–2,135 m	Jun–Aug	American House, Haskins Valley, Soapstone Hill, Strawberry Valley; habitat present in coniferous forest

Common and Scientific Name	Legal Status[a] Federal/ State/ CNPS/HCP	Geographic Distribution/ Floristic Province	Habitat Requirements	Blooming Period	Quadrangles with Recorded Occurrences of Species[b] and Habitat in the Planning Area
Felt-leaved violet *Viola tomentosa*	–/–/4.2/–	Endemic to the northern Sierra Nevada	Gravelly soils in lower montane coniferous forest, subalpine coniferous forest, upper montane coniferous forest; 1,435–2,000 m	May–Oct	American House, Berry Creek, Cascade, Haskins Valley; habitat present in coniferous forest
Columbian watermeal *Wolffia brasiliensis*	–/–/2B.3/–	Few occurrences along Sacramento River in Butte and Glenn Counties; elsewhere	Shallow freshwater in marshes and swamps; 20–100 m	Apr-Dec	Llano Seco, Ord Ferry, Palermo, Pennington; habitat present in fresh-water marsh and along drainages

[a] Status explanations:

Federal
E = listed as endangered under the federal Endangered Species Act.
T = listed as threatened under the federal Endangered Species Act.
– = no listing under the federal Endangered Species Act.

State
E = listed as endangered under the California Endangered Species Act.
R = listed as rare under the California Native Plant Protection Act. This category is no longer used for newly listed plants, but some plants previously listed as rare retain this designation.
– = no listing under the California Endangered Species Act.

California Native Plant Society
1B = List 1B species: rare, threatened, or endangered in California and elsewhere.
2 = List 2 species: rare, threatened, or endangered in California but more common elsewhere.
3 = List 3 species: plants about which more information is needed to determine their status.
4 = List 4 species: plants of limited distribution.
– = no listing by the California Native Plant Society.

CNPS Code Extensions
.1 = seriously endangered in California (over 80% of occurrences threatened / high degree and immediacy of threat).
.2 = fairly endangered in California (20-80% of occurrences threatened).
.3 = not very endangered in California (<20% of occurrences threatened or no current threats known).

Butte County Habitat Conservation Plan (HCP) and Natural Community Conservation Plan (NCCP)
CS = Covered Species.
– = not covered under the Butte County HCP/NCCP.

[b] Known occurrences from CNDDB 2021; CNP 2021; USFWS 2021c.

Notes:
M = meters.
* = known populations possibly extirpated or presumed extirpated from quadrangle or county.
^ = One occurrence of this species is documented within the Study Area; however, the occurrence is unconfirmed and is not in the CNDDB or CNPS databases[b]. There is designated critical habitat for this species within the Study Area[b].
Source: USFWS 2005; BRCP 2019.

TABLE 5.4-3 SPECIAL-STATUS WILDLIFE SPECIES DOCUMENTED OR IDENTIFIED AS HAVING THE POTENTIAL TO OCCUR IN THE PLANNING AREA

Common and Scientific Name	Status[a] Federal/ State/ HCP	Distribution	Preferred Habitats	USGS Quadrangles in the Planning Area Where Known Occurrences Have Been Documented[b]
Invertebrates				
Conservancy fairy shrimp *Branchinecta conservatio*	E/–/CS	Disjunct occurrences in Solano, Merced, Tehama, Butte, and Glenn Counties.	Large, deep vernal pools in annual grasslands.	Nord, Vina
Vernal pool fairy shrimp *Branchinecta lynchi*	T/–/CS	Central Valley, central and south Coast Ranges from Tehama County to Santa Barbara County. Isolated populations also in Riverside County.	Common in vernal pools; also found in sandstone rock outcrop pools.	Biggs, Llano Seco, Nord, Oroville, Palermo*, Richardson Springs, Shippee, Vina
Vernal pool tadpole shrimp *Lepidurus packardi*	E/–/CS	Shasta County south to Merced County.	Vernal pools and ephemeral stock ponds.	Cherokee, Chico, Hamlin Canyon, Honcut, Llano Seco, Nord, Oroville, Palermo, Richardson Springs, Shippee, Vina
Valley elderberry longhorn beetle *Desmocerus californicus dimorphus*	T/–/CS	Stream side habitats below 3,000 feet throughout the Central Valley.	Riparian and oak savanna habitats with elderberry shrubs; elderberries are the host plant.	Biggs, Chico, Foster Island, Glenn, Llano Seco, Loma Rica, Honcut, Ord Ferry, Palermo, Pulga, Richardson Springs, West of Biggs
Amphibians				
Southern long-toed salamander *Ambystoma macrodactylum sigillatum*	–/SSC/ –	Northeastern California, along the northern Sierra Nevada south to Garner Meadows and Spicer Reservoir, and in Trinity and Siskiyou counties near the Trinity Alps.	Alpine meadows, high mountain ponds, and lakes at elevations up to about 10,000 ft.	Jonesville
California tiger salamander *Ambystoma californiense*	T/T/–	Central Valley, including Sierra Nevada foothills, up to approximately 1,000 feet, and coastal region from Butte County south to northeastern San Luis Obispo County.	Small ponds, lakes, or vernal pools in grasslands and oak woodlands for larvae; rodent burrows, rock crevices, or fallen logs for cover for adults and for summer dormancy	Pennington (considered extirpated)
Western spadefoot *Spea hammondii*	–/SSC/CS	Sierra Nevada foothills, Central Valley, Coast Ranges, coastal counties in southern California.	Shallow streams with riffles and seasonal wetlands, such as vernal pools in annual grasslands and oak woodlands.	Bangor, Cherokee, Hamlin Canyon, Honcut, Nord, Oroville, Palermo, Richardson Springs, Richardson Springs NW, Shippee

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California red-legged frog *Rana draytonii*	T/SSC/–	Found along the coast and coastal mountain ranges of California from Marin County to San Diego County and in the Sierra Nevada from Tehama County to Fresno County.	Permanent and semipermanent aquatic habitats, such as creeks and cold-water ponds, with emergent and submergent vegetation. May estivate in rodent burrows or cracks during dry periods.	Berry Creek
Foothill yellow-legged frog (Feather River clade) *Rana boylii*	–/C/CS	Occurs in the North Feather River and Upper Feather River watersheds in Butte, Plumas, and Lassen counties, up to approximately 6,000 feet.	Creeks or rivers in woodlands or forests with rock and gravel substrate and low overhanging vegetation along the edge. Usually found near riffles with rocks and sunny banks nearby.	Bangor*, Berry Creek, Brush Creek, Cascade, Cherokee, Clipper Mills, Cohasset, Forbestown, Hamlin Canyon, Kimshew Point, Ord Ferry, Oroville, Oroville Dam, Paradise East, Paradise West, Pulga, Rackerby*, Richardson Springs, Stirling City
Foothill yellow-legged frog (North Coast clade) *Rana boylii*	–/SSC/–	Sutter County and the following watershed subbasins in Nevada, Placer, Sierra, and Yuba counties: Lower American, North Fork American, Upper Bear, Upper Coon-Upper Auburn, and Upper Yuba.	Creeks or rivers in woodlands or forests with rock and gravel substrate and low overhanging vegetation along the edge. Usually found near riffles with rocks and sunny banks nearby.	Bangor*, Berry Creek, Brush Creek, Cascade, Cherokee, Clipper Mills, Cohasset, Forbestown, Hamlin Canyon, Kimshew Point, Ord Ferry*, Oroville, Oroville Dam, Paradise East, Paradise West, Pulga, Rackerby*, Richardson Springs, Stirling City
Cascades frog *Rana cascadae*	–/C, SSC/–	Found in the Shasta-Trinity region east to the Modoc Plateau and south to the Lassen area and the upper Feather river system.	Ephemeral and permanent ponds and streams. Oviposition habitat is open, shallow water in unshaded areas. Overwinter underwater or in saturated ground.	Belden*, Butte Meadows*, Humboldt Peak, Jonesville, Kimshew Point, Onion Butte
Sierra Nevada yellow-legged frog *Rana sierrae*	E/T/–	Historically ranged from Plumas County south through the Sierra Nevada to Inyo County. The southern part of the range is marked by Middle and South Forks of the Kings River. This frog also occurs at locations east of the Sierra Nevada crest.	Associated with streams, lakes, and ponds in montane riparian, lodgepole pine, subalpine conifer, and wet meadow habitats.	Butte Meadows, Clipper Mills, Jonesville, Humboldt Peak, Strawberry Valley

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Reptiles				
Northwestern pond turtle *Actinemys marmorata*	–/SSC/CS	Occurs from the Oregon border of Del Norte and Siskiyou Counties south along the coast to San Francisco Bay, inland through the Sacramento Valley, and on the western slope of Sierra Nevada.	Occupies ponds, marshes, rivers, streams, and irrigation canals with muddy or rocky bottoms and with watercress, cattails, water lilies, or other aquatic vegetation in woodlands, grasslands, and open forests.	Berry Creek, Biggs, Brush Creek, Chico, Ord Ferry, Oroville, Palermo, Paradise West, Pennington, Pulga, Sanborn Slough, Shippee
Blainsville's horned lizard *Phrynosoma blainvillii*	–/SSC/–	Sacramento Valley, including foothills, south to southern California; Coast Ranges south of Sonoma County; below 4,000 feet in northern California.	Chaparral, cismontane woodland, coastal bluff scrub, coastal scrub, desert wash, pinon and juniper woodlands, riparian scrub, riparian woodlands, valley and foothill grassland. Needs open areas for sunning, bushes for cover, patches of loose soil for burial, and abundant supply of ants and other insects.	Hamlin Canyon, Oroville
Giant garter snake *Thamnophis gigas*	T/T/CS	Central Valley from Fresno north to the Gridley/Sutter Buttes area; has been extirpated from areas south of Fresno.	Sloughs, canals, and other small waterways where there is a prey base of small fish and amphibians; requires grassy banks and emergent vegetation for basking and areas of high ground protected from flooding during winter.	Biggs, Butte City, Glenn, Gridley, Llano Seco, Nelson, Ord Ferry, Pennington, Sanborn Slough, Shippee, West of Biggs
Birds				
Clark's grebe *Aechmophorus clarkii*	–/BCC/–	In California, major breeding areas include Eagle Lake (Lassen County), Tule Lake National Wildlife Refuge (Siskiyou County, Clear Lake (Lake County), Lake Almanor (Plumas County), Thermolito Afterbay (Butte County), Bridgeport Reservoir (Mono County), and Goose Lake (Modoc County) (LaPorte et al. 2020).	Winters on salt or brackish bays, estuaries, sheltered sea coasts, freshwater lakes, and rivers. Breeds on freshwater to brackish marshes, lakes, reservoirs and ponds, with a preference for large stretches of open water fringed with emergent vegetation.	No CNDDB (2021) records for occurrences in the Planning Area

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Western yellow-billed cuckoo *Coccyzus americanus*	T/E/CS	Nests along the upper Sacramento, lower Feather, south fork of the Kern, Amargosa, Santa Ana, and Colorado Rivers.	Wide, dense riparian forests with a thick understory of willows for nesting; sites with a dominant cottonwood overstory are preferred for foraging; may avoid valley-oak riparian habitats where scrub jays are abundant.	Butte City, Foster Island, Glenn, Llano Seco, Ord Ferry, Sanborn Slough, West of Biggs
Black swift *Cypseloides niger*	–/SSC/–	Breeds very locally in the Sierra Nevada and Cascade Range, the San Gabriel, San Bernardino, and San Jacinto mountains, and in coastal bluffs from San Mateo county south to near San Luis Obispo County.	Nests in moist crevice or cave on sea cliffs above the surf, or on cliffs behind, or adjacent to, waterfalls in deep canyons.	Brush Creek
Vaux's swift *Chaetura vauxi*	–/SSC/–	Coastal belt from Del Norte County south to Santa Cruz County and in mid-elevation forests of the Sierra Nevada and Cascade Range.	Nests in hollow, burned-out tree trunks in large conifers.	No CNDDB (2021) records for occurrences in the Planning Area
Costa's hummingbird *Calypte costae*	–/BCC/–	In California, breeds in coastal scrub and chaparral communities from Santa Barbara County south into Baja California; from Mexico north into Mojave desert scrub of Eastern Sierra Nevada;	Coastal scrub and chaparral communities.	No CNDDB (2021) records for occurrences in the Planning Area and this species does not typically occur in the Planning Area
Rufous hummingbird *Selasphorus rufus*	–/BCC/–	Breeds in British Columbia and Alaska (does not breed in California). Winters in coastal Southern California south into Mexico. Common migrant during March-April in Sierra Nevada foothills and June-August in Lower Conifer to Alpine zone of Sierra Nevada.	Nesting habitat includes secondary succession communities and openings, mature forests, parks and residential area.	No CNDDB (2021) records for occurrences in the Planning Area

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California black rail *Laterallus jamaicensis coturniculus*	–/T, FP/CS	Permanent resident in the San Francisco Bay and east-ward through the Delta into Sacramento and San Joaquin Counties; small populations in Marin, Santa Cruz, San Luis Obispo, Orange, Riverside, and Imperial Counties. Disjunct population in the Sierra Nevada foothills from Butte County to Placer County.	Tidal salt marshes associated with heavy growth of pickleweed; also occurs in brackish marshes or freshwater marshes at low elevations.	Bangor, Cherokee, Hamlin Canyon, Loma Rica, Oroville, Paradise West, Palermo, Pennington, Richardson Springs, Sanborn Slough
Greater sandhill crane *Antigone canadensis tabida*	–/T, FP/CS	Breeds in Siskiyou, Modoc, Lassen, Plumas, and Sierra Counties. Winters in the Central Valley, southern Imperial County, Lake Havasu National Wildlife Refuge, and the Colorado River Indian Reserve.	Summers in open terrain near shallow lakes or freshwater marshes. Winters in plains and valleys near bodies of fresh water.	Biggs, Gridley, Pennington, West of Biggs
Whimbrel *Numenius phaeopus*	–/BCC/–	Nesting occurs in Alaska and northern Canada; winters in coastal Oregon, California, south to Central America.	Wintering habitat includes tidal mudflats, coral reefs, lagoons, marshes, swamps, estuaries, sandy beaches, and rocky shores.	No CNDDB (2021) records for occurrences in the Planning Area
Long-billed curlew *Numenius americanus*	–/BCC/–	Breeds east of the Cascades in Washington, Oregon, northeastern California (Siskiyou, Modoc, Lassen counties), east-central California (Inyo County), through Great Basin region into Great Plains. Winters in California, Texas, and Louisiana.	Wintering habitat includes tidal mudflats and estuaries, wet pastures, sandy beaches, salt marsh, managed wetlands, evaporation ponds, sewage ponds, and grasslands.	No CNDDB (2021) records for occurrences in the Planning Area
Marbled godwit *Limosa fedoa*	–/BCC/–	Nests in Montana, North and South Dakota, Minnesota, into Canada. Winter range along Pacific Coast from British Columbia south to Central America, with small numbers wintering in interior California.	Wintering habitat includes coastal mudflats, meadows, estuaries, sandy beaches, sandflats, and salt ponds.	No CNDDB (2021) records for occurrences in the Planning Area

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Short-billed Dowitcher *Limnodromus griseus*	–/BCC/–	Nests in Canada, southern Alaska; winters in coastal California south to South America.	Wintering habitat includes coastal mudflats and brackish lagoons.	No CNDDB (2021) records for occurrences in the Planning Area
Willet *Tringa semipalmata*	–/SSC/–	Breeds locally in interior of western North America. In California, breeding range includes the Klamath Basin and Modoc Plateau and portions of Mono and possibly Inyo counties. Breeding habitat includes prairies.	Breeds in wetlands and grasslands on semiarid plains; in uplands near brackish or saline wetlands; prefers temporary, seasonal, and alkali wetlands over semipermanent and permanent wetlands.	No CNDDB (2021) records for occurrences in the Planning Area
Great blue heron *Ardea herodias*	–/WN/–	Nests in suitable habitat throughout California except at higher elevations in Sierra Nevada and Cascade mountain ranges.	Widely distributed in freshwater and calm-water intertidal habitats.	Llano Seco, Ord Ferry, Shippee
Great egret *Ardea alba*	–/WN/–	In northern California, common permanent resident in coastal lowlands, inland valleys, and the Central Valley. Locally abundant March to July near the larger nesting colonies.	Feeds and rests in fresh and saline emergent wetlands, along the margins of estuaries, lakes, and slow-moving streams, on mudflats and salt ponds, and in irrigated croplands and pastures; nests in large trees, and roosts in trees.	Llano Seco, Ord Ferry
Osprey *Pandion haliaetus*	–/WL/–	Nests along the north coast from Marin County to Del Norte County, east through the Klamath and Cascade Ranges, and in the upper Sacramento Valley. Important inland breeding populations at Shasta Lake, Eagle Lake, and Lake Almanor and small numbers elsewhere south through the Sierra Nevada. Winters along the coast from San Mateo County to San Diego County.	Nests in snags, trees, or utility poles near the ocean, large lakes, or rivers with abundant fish populations.	Butte Meadows, Foster Island, Glenn, Jonesville, Llano Seco, Ord Ferry, Oroville, Oroville Dam, Stirling City
White-tailed kite *Elanus leucurus*	–/FP/CS	Lowland areas west of Sierra Nevada from the head of the Sacramento Valley south, including coastal valleys and foothills to western San Diego County.	Low foothills or valley areas with valley or live oaks, riparian areas, and marshes near open grasslands.	No CNDDB (2021) records for occurrences in the Planning Area

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Golden eagle *Aquila chrysaetos*	–/FP/–	Foothills and mountains throughout California. Uncommon nonbreeding visitor to lowlands such as the Central Valley.	Nest on cliffs and escarpments or in tall trees overlooking open country. Forages in annual grasslands, chaparral, and oak woodlands with plentiful medium and large-sized mammals.	No CNDDB (2021) records for occurrences in the Planning Area
Northern harrier *Circus hudsonius*	–/SSC/–	Occurs throughout lowland California; has been recorded in fall at high elevations.	Grasslands, meadows, marshes, and seasonal and agricultural wetlands.	Biggs, Pennington, Sansborn Slough
Sharp-shinned hawk *Accipiter striatus*	–/WL/–	Permanent resident in the Sierra Nevada, Cascade, Klamath, and north Coast Ranges at mid elevations and along the coast in Marin, San Francisco, San Mateo, Santa Cruz, and Monterey Counties. Winters over the rest of the State except at very high elevations.	Dense canopy ponderosa pine or mixed-conifer forest and riparian habitats.	No CNDDB (2021) records for occurrences in the Planning Area
Cooper's hawk *Accipiter cooperii*	–/WL/–	Throughout California except high altitudes in the Sierra Nevada. Winters in the Central Valley, southeastern desert regions, and plains east of the Cascade Range.	Nests in a wide variety of habitat types, from riparian woodlands and digger pine-oak woodlands through mixed conifer forests.	No CNDDB (2021) records for occurrences in the Planning Area
Northern goshawk *Accipiter gentilis*	–/SSC/–	Permanent resident in the Klamath and Cascade Ranges, in the north Coast Ranges from Del Norte County to Mendocino County, and in the Sierra Nevada south to Kern County. Winters in Modoc, Lassen, Mono, and northern Inyo Counties.	Nests and roosts in older stands of red fir, Jeffrey pine, Ponderosa pine, lodgepole pine, Douglas fir, and mixed conifer forests.	Butte Meadows, Clipper Mills, Forbestown, Humboldt Peak, Jonesville, Kimshew Point

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Bald eagle *Haliaeetus leucocephalus*	D/E, FP/–	Nests in Siskiyou, Modoc, Trinity, Shasta, Lassen, Plumas, Butte, Tehama, Lake, and Mendocino Counties and in the Lake Tahoe Basin. Reintroduced into central coast. Winter range includes the rest of California, except the southeastern deserts, very high altitudes in the Sierra Nevada, and east of the Sierra Nevada south of Mono County.	In western North America, nests and roosts in coniferous forests within 1 mile of a lake, reservoir, stream, or the ocean.	Berry Creek, Brush Creek, Forbestown, Gridley, Oroville Dam, Paradise East, Richardson Springs,
Swainson's hawk *Buteo swainsoni*	–/T/CS	Lower Sacramento and San Joaquin Valleys, the Klamath Basin, and Butte Valley. Highest nesting densities occur near Davis and Woodland, Yolo County.	Nests in oaks or cottonwoods in or near riparian habitats. Forages in grasslands, irrigated pastures, and grain fields.	Biggs, Butte City, Chico, Foster Island, Glenn, Gridley, Honcut, Llano Seco, Loma Rica, Ord Ferry, Nelson, Nord, Ord Ferry, Palermo, Pennington, Richardson Springs NW, West of Biggs
Ferruginous hawk *Buteo regalis*	–/WL/–	Does not nest in California; winter visitor along the coast from Sonoma County to San Diego County, east-ward to the Sierra Nevada foothills and south-eastern deserts, the Inyo-White Mountains, the plains east of the Cascade Range, and Siskiyou County.	Open terrain in plains and foothills where ground squirrels and other prey are available.	No CNDDB (2021) records for occurrences in the Planning Area
Western burrowing owl *Athene cunicularia*	–/SSC/CS	Lowlands throughout California, including the Central Valley, northeastern plateau, southeastern deserts, and coastal areas. Rare along south coast.	Level, open, dry, heavily grazed or low stature grassland or desert vegetation with available burrows.	Biggs, Chico*, Llano Seco, Nord, Richardson Springs
California spotted owl *Strix occidentalis occidentalis*	–/SSC/–	Sierra Nevada from Lassen County south to northern Kern County, and in the Transverse, Peninsular and southern coastal mountains.	Mature forest with suitable nesting trees. In southern California, occurs in oak and oak-conifer habitats in addition to mature conifer forest.	No CNDDB (2021) records for occurrences in the Planning Area

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Lewis' woodpecker *Melanerpes lewis*	–/BCC/–	In California, breeds in Siskiyou and Modoc Counties, Warmer Mountains, inner coast ranges from Tehama to San Luis Obispo Counties, San Bernardino Mountains, and Big Pine Mountain (Inyo County).	Nesting habitat includes open ponderosa pine forest, open riparian woodland, logged/burned forest, and oak woodlands. Does not breed on the west side of Sierran crest (Beedy and Pandalfino 2013).	No CNDDB (2021) records for occurrences in the Planning Area
Williamson's sapsucker *Sphyrapicus thyroideus*	–/BCC/–	In California, breeds in the Cascade-Sierra Nevada region; with disjunct breeding populations in San Gabriel, San Bernardino, and San Jacinto Mountains; Siskiyou, Trinity and Warner Mountains; East Warner Mountains, Sweetwater and Carson Range.	Breeding occurs in middle to high elevation conifer and mixed conifer-deciduous forests. Nesting habitat cavities excavated in western larch, Douglas fir, ponderosa pine, montane spruce, and quaking aspen.	No CNDDB (2021) records for occurrences in the Planning Area
Nuttall's woodpecker *Dryobates nuttallii*	–/BCC/–	Resident from northern California south to Baja California.	Nests in tree cavities in oak woodlands and riparian woodlands.	No CNDDB (2021) records for occurrences in the Planning Area
White-headed woodpecker *Picoides albolarvatus*	–/BCC/–	Resident, in California, from Oregon border south in Coast Ranges to Colusa County, and inland through the Sierra Nevada where it is widespread on western slope south to the Transverse Ranges.	Requires montane coniferous forests dominated by pines. Found year-round in Ponderosa pine woodland, black oak woodland, mixed coniferous forest, Jeffrey pine woodland, and red fir forests. Uses snags for nesting.	No CNDDB (2021) records for occurrences in the Planning Area
Merlin *Falco columbarius*	–/WL/–	Breeds in Oregon, Washington north into Canada. Winters in southern Canada to South America, including California.	Breeds near forest openings, fragmented woodlots, and riparian areas. Wintering habitat includes wide variety, open forests, grasslands, tidal flats, plains, and urban settings.	West of Biggs

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American peregrine falcon *Falco peregrinus anatum*	D/FP/–	Permanent resident along the north and south Coast Ranges. May summer in the Cascade and Klamath Ranges and through the Sierra Nevada to Madera County. Winters in the Central Valley south through the Transverse and Peninsular Ranges and the plains east of the Cascade Range.	Nests and roosts on protected ledges of high cliffs, usually adjacent to lakes, rivers, or marshes that support large prey populations.	Hamlin Canyon, Paradise West
Olive-sided flycatcher *Contopus cooperi*	–/SSC, BCC/–	In California, nests in coastal forests, Cascade and Sierra Nevada region. Winters in Central to South America.	Nests in montane and northern coniferous forests, in forest openings, forest edges, semiopen forest stands.	No CNDDB (2021) records for occurrences in the Planning Area
Willow flycatcher *Empidonax traillii*	–/E, BCC/–	Summers along the western Sierra Nevada from El Dorado to Madera County, in the Cascade and northern Sierra Nevada in Trinity, Shasta, Tehama, Butte, and Plumas Counties, and along the eastern Sierra Nevada from Lassen to Inyo County.	Riparian areas and large wet meadows with abundant willows. Usually found in riparian habitats during migration.	Jonesville
Least Bell's vireo *Vireo bellii pusillus*	E/E/–	In California, breeding range includes Ventura, Los Angeles, Riverside, Orange, San Diego, and San Bernardino counties, and rarely Stanislaus and Santa Clara counties. Winters in southern Baja California Sur.	Nesting habitat includes dense, low shrubby vegetation in riparian areas, brushy fields, young second-growth woodland, scrub oak, coastal chaparral and mesquite brushland.	Chico, Nelson, Shippee
Loggerhead shrike *Lanius ludovicianus*	–/SSC/–	Resident and winter visitor in lowlands and foothills throughout California. Rare on coastal slope north of Mendocino County, occurring only in winter.	Prefers open habitats with scattered shrubs, trees, posts, fences, utility lines, or other perches.	Shippee
Yellow-billed magpie *Pica nuttallii*	–/BCC/–	Endemic to California; found in the Central Valley and coast range south of San Francisco Bay and north of Los Angeles County.	Nesting habitat includes oak savannah with large in large expanses of open ground; also found in urban parklike settings.	No CNDDB (2021) records for occurrences in the Planning Area

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Oak titmouse *Baeolophus inornatus*	–/BCC/–	Breeding range includes southwestern Oregon south through California's Coast, Transverse and Peninsular ranges, western foothills of the Sierra Nevada, into Baja California; they are absent from the humid northwestern coastal region and the San Joaquin Valley (Cicero et al. 2020).	Nests in tree cavities within dry oak or oak-pine woodland and riparian; where oaks are absent, they nest in juniper woodland, open forests (gray, Jeffrey, Coulter, pinyon pines and Joshua tree)	No CNDDB (2021) records for occurrences in the Planning Area
Bank swallow *Riparia riparia*	–/T/–	Occurs along the Sacramento River from Tehama County to Sacramento County, along the Feather and lower American Rivers, in the Owens Valley; and in the plains east of the Cascade Range in Modoc, Lassen, and northern Siskiyou Counties. Small populations near the coast from San Francisco County to Monterey County.	Nests in bluffs or banks, usually adjacent to water, where the soil consists of sand or sandy loam.	Foster Island, Glenn, Gridley, Honcut, Llano Seco, Nord, Ord Ferry, Palermo, Vina
Wrentit *Chamaea fasciata*	–/BCC/–	A sedentary resident along the west coast of North America from the Columbia River south to Baja California (Geupel and Ballard 2020).	Coastal sage scrub, northern coastal scrub, chaparral, dense understory of riparian woodlands, riparian scrub, coyote brush and blackberry thickets, and dense thickets in suburban parks and gardens.	No CNDDB (2021) records for occurrences in the Planning Area
California thrasher *Toxostoma redivivum*	–/BCC/–	Resident and endemic to coastal and Sierra Nevada-Cascade foothill areas of California.	Nests are usually well hidden in dense shrubs, including scrub oak, California lilac, and chamise.	No CNDDB (2021) records for occurrences in the Planning Area
Cassin's finch *Haemorhous cassinii*	–/BCC/–	Breeds throughout the conifer belts of North America's western interior mountains, from central British Columbia to northern New Mexico and Arizona; mostly between 3,000'-10,000' elevation.	Often in mature forests of pine, spruce and aspen; especially open, dry pine forests. Some will breed in open sagebrush shrubland with scattered western junipers.	No CNDDB (2021) records for occurrences in the Planning Area

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Lawrence's goldfinch *Spinus lawrencei*	–/BCC/–	Breeds in Sierra Nevada and inner Coast Range foothills surrounding the Central Valley and the southern Coast Range to Santa Barbara County east through southern California to the Mojave Desert and Colorado Desert into the Peninsular Range.	Nests in arid and open woodlands with chaparral or other brushy areas, tall annual weed fields, and a water source (e.g. small stream, pond, lake), and to a lesser extent riparian woodland, coastal scrub, evergreen forests, pinyon-juniper woodland, planted conifers, and ranches or rural residences near weedy fields and water.	No CNDDB (2021) records for occurrences in the Planning Area
Song sparrow ("Modesto" population) *Melospiza melodia*	–/SSC/–	Resident in central and southwest California, including Central Valley.	Nests in marsh, scrub habitat.	Sanborn Slough
San Clemente spotted towhee *Pipilo maculatus clementae*	–/SSC, BCC/–	Resident on Santa Catalina and Santa Rosa Islands; extirpated on San Clemente Island, California.	Breeds in dense, broadleaf shrubby brush, thickets, and tangles in chaparral, oak woodland, island woodland, and Bishop pine forest.	No CNDDB (2021) records for occurrences in the Planning Area and the Planning Area is out of range for this species
Yellow-breasted chat *Icteria virens*	–/SSC/–	Nests locally in coastal mountains and Sierra Nevada foothills, east of the Cascades in northern California, along the Colorado river, and very locally inland in southern California.	Nests in dense riparian habitats dominated by willows, alders, Oregon ash, tall weeds, blackberry vines, and grapevines.	There are no CNDDB occurrences of this species in the Study Area
Tricolored blackbird *Agelaius tricolor*	–/T, SSC, BCC/CS	Permanent resident in the Central Valley from Butte County to Kern County. Breeds at scattered coastal locations from Marin County south to San Diego County; and at scattered locations in Lake, Sonoma, and Solano Counties. Rare nester in Siskiyou, Modoc, and Lassen Counties.	Nests in dense colonies in emergent marsh vegetation, such as tules and cattails, or upland sites with blackberries, nettles, thistles, and grainfields. Habitat must be large enough to support 50 pairs. Probably requires water at or near the nesting colony.	Biggs, Butte City, Cherokee, Chico*, Glenn, Gridley*, Honcut, Llano Seco, Nelson, Oroville, Palermo, Pennington, Sanborn Slough, Shippee, West of Biggs
Saltmarsh common yellowthroat *Geothlypis trichas sinuosa*	–/SSC, BCC/–	Breeds in salt marshes of San Francisco Bay; winters San Francisco south along coast to San Diego County.	Salt marshes	No CNDDB (2021) records for occurrences in the Planning Area and the Planning Area is out of range for this species

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Yellow warbler *Setophaga petechia*	–/SSC/–	Breeding range includes most of California, except Central Valley (isolated breeding locales on Valley floor, Stanislaus, Colusa, and Butte Counties), Sierra Nevada range above tree line, and southeastern deserts. Winters in Mexico south to South America.	Nesting habitat includes riparian vegetation near streams and meadows.	Shippee
Mammals				
Western red bat *Lasiurus blossevillii*	–/SSC/–	Southern British Columbia in Canada, through Argentina and Chile in South America, including much of the western U.S.	Roosts in foliage of trees or shrubs; Day roosts are commonly in edge habitats adjacent to streams or open fields, in orchards, and sometimes in urban areas. There may be an association with intact riparian habitat (particularly willows, cottonwoods, and sycamores)[c].	Ord Ferry, Stirling City, Strawberry Valley
Spotted bat *Euderma maculatum*	–/SSC/–	Occurs throughout eastern and southern California, the central Sierra Nevada, and the Sierra Nevada foothills bordering the San Joaquin Valley. One recent record from northern California in the Trinity Alps. Probably occurs in other portions of the State where habitat is suitable.	Found in a wide variety of habitats from low desert to high elevation coniferous forest, primarily in areas associated with cliff and canyon habitat. Females may favor ponderosa pine forests during reproduction.	No CNDDB (2021) records for occurrences in the Planning Area
Townsend's big-eared bat *Corynorhinus townsendii*	–/SSC/–	Throughout California from low desert to mid-elevation montane habitats.	Desert, oak woodland, coastal redwood, and mixed coniferous-deciduous forest. Day roosts in cave-like spaces including mines, caves, tunnels, and dark spaces in buildings, such as attics. May night roost in more open areas such as under bridges.	Oroville, Palermo

Common and Scientific Name	Status[a] Federal/ State/ HCP	Distribution	Preferred Habitats	USGS Quadrangles in the Planning Area Where Known Occurrences Have Been Documented[b]
Pallid bat *Antrozous pallidus*	–/SSC/–	Occurs throughout California except the high Sierra from Shasta to Kern County and the northwest coast, primarily at lower and mid-elevations *Antrozous pallidus*.	Occurs in a variety of habitats from desert to coniferous forest. Most closely associated with oak, yellow pine, redwood, and giant sequoia habitats in northern California and oak woodland, grassland, and desert scrub in southern California. Relies heavily on trees for roosts.	Berry Creek, Chico, Forbestown, Strawberry Valley
Western mastiff bat *Eumops perotis*	–/SSC/–	Occurs along the western Sierra primarily at low to mid elevations and widely distributed throughout the southern coast ranges. Recent surveys have detected the species north to the Oregon border.	Found in a wide variety of habitats from desert scrub to montane conifer. Roosts and breeds in deep, narrow rock crevices, but may also use crevices in trees, buildings, and tunnels.	Chico, Nord, Ord Ferry, Oroville, Palermo, Richardson Springs NW
Sierra Nevada mountain beaver *Aplodontia rufa californica*	–/SSC/–	Western and eastern slopes of the Sierra Nevada.	Riparian forest, riparian scrub, and riparian woodland Needs dense understory for food & cover. Burrows into soft soil. Needs abundant supply of water.	Cascade, Kimshew Point
Sierra Nevada red fox *Vulpes vulpes necator*	C/T/–	Occurs in the Cascade Range, in Siskiyou County, and in the Sierra Nevada from Lassen County south to Tulare County.	Alpine dwarf-shrub, wet meadow, subalpine conifer, lodgepole pine, red fir, aspen, montane chaparral, montane riparian, mixed conifer, and ponderosa pine. In the Sierra Nevada, most sightings have been above 7,000 feet.	Butte Meadows, Jonesville
Fisher- West Coast DPS (*Pekania pennanti*)	T/–/–	Coastal mountains from Del Norte County to Sonoma Counties, east through the Cascades to Lassen County, and south in the Sierra Nevada to Kern County.	Late successional coniferous forests and montane riparian habitats.	Brush Creek

Common and Scientific Name	Status[a] Federal/ State/ HCP	Distribution	Preferred Habitats	USGS Quadrangles in the Planning Area Where Known Occurrences Have Been Documented[b]
American badger *Taxidea taxus*	–/SSC/–	Throughout California, except for the humid coastal forests of northwestern California in Del Norte and the northwestern Humboldt Counties.	Requires sufficient food, friable soils, and relatively open uncultivated ground; preferred habitat includes grasslands, savannas, and mountain meadows near timberline.	Butte City, Llano Seco, Nelson, West of Biggs.

[a] Status explanations:

Federal
E = listed as endangered under the federal Endangered Species Act.
T = listed as threatened under the federal Endangered Species Act.
C = candidate for threatened or endangered status.
PT = proposed for threatened status.
PD = proposed for delisting.
D = delisted.
– = no listing under the Federal Endangered Species Act.

State
E = listed as endangered under the California Endangered Species Act.
T = listed as threatened under the California Endangered Species Act.
FP = fully protected under the California Fish and Game Code.
SSC = species of special concern in California.
WN = Wildlife Nursery Site.
– = no listing under the California Endangered Species Act.

Butte County Habitat Conservation Plan (HCP) and Natural Community Conservation Plan (NCCP)
CS = Covered Species.
– = no listing under the Butte County HCP/NCCP.
[b] Known occurrences from CNDD 2021; USFWS 2021c.

Note: CNDDB = California Natural Diversity Database.
[c] Habitats from WBG 2021.

Recently, large fires have burned nearly one-quarter of the acreage within Butte County. The 2018 Camp Fire burned a total of 153,336 acres in Butte County and the 2020 North Complex Fire burned a total of 318,935 acres, approximately half of which were in Butte County. Both the Camp Fire and the Butte County portion of the North Complex Fire burned mostly conifer forest habitat. These fires will impact the vegetation communities for many years and for some have led to changes in the dominant species and/or age classes that were there before the fires. Vegetation communities burned at a high intensity will require active restoration and time to fully recover from the effects of the fire.

Conifer Forest

Several types of conifer forest occur in the Planning Area, including montane hardwood-conifer, ponderosa pine (*Pinus ponderosa*), Sierran mixed conifer, red fir (*Abies magnifica* var. *magnifica*), and subalpine conifer. These forest types are dominated by conifers but vary in the dominant species and elevations at which they occur.

The montane hardwood-conifer forest type occurs at elevations below 4,000 feet. In this forest type, California black oak (*Quercus kelloggii*), bigleaf maple (*Acer macrophyllum*), white alder (*Alnus rhombifolia*), and dogwood (*Cornus* sp.) occur with conifers such as Douglas-fir (*Pseudotsuga menziesii* var. *menziesii*), incense-cedar (*Calocedrus decurrens*), and ponderosa pine. This forest type generally has little understory except in areas of disturbance.

Ponderosa pine forests generally occur at elevations below 7,000 feet and include stands of pure ponderosa pine as well as areas with associated species such as Douglas-fir, sugar pine (*Pinus lambertiana*), white fir (*Abies concolor*), incense-cedar, Jeffrey pine (*Pinus jeffreyi*), and others. Stands also may include a shrub and herbaceous layer.

Red fir forest occurs between 6,000 and 9,000 feet in elevation and is generally dominated by red fir with few other species and little understory because of the dense shade and thick layer of dropped needles on the ground.

Subalpine conifer forest occurs at the highest elevations in the Planning Area. In the northern Sierra, this forest type is dominated by low-growing conifers, including mountain hemlock (*Tsuga mertensiana*), western white pine (*Pinus monticola*), lodgepole pine (*Pinus contorta* ssp. *murrayana*), and red fir. Understory is usually sparse, consisting of shrubs, grasses, and annuals.

Conifer forest provides habitat for numerous wildlife species. The large variety of plant species within conifer forest provides a diversity of food and cover for wildlife. Berries from deerbrush (*Ceanothus integerrimus*) and other shrubs and a variety of grasses and forbs provide essential resources for foraging wildlife. Mature forests are valuable habitat for cavity nesting birds (Mayer and Laudenslayer 1998). Wildlife species that are common in this habitat type include Steller's jay (*Cyanocitta stelleri*), hairy woodpecker (*Dryobates villosus*), mountain chickadee (*Parus gambeli*), western gray squirrel (*Sciurus griseus*), porcupine (*Erethizon dorsatum*), gray fox (*Urocyon cinereoargenteus*), and blacktail deer (*Odocoileus hemionus*) (Zeiner et al. 1990a).

Special-status wildlife species that may occur in this community type include northern goshawk (*Accipiter gentilis*) and California spotted owl (*Strix occidentalis occidentalis*).

Special-status wildlife species that may occur in this community type when it abuts reservoirs and drainages include osprey (*Pandion haliaetus*).

Three federally or state-listed species may occur within conifer forest in the Planning Area (Table 5.4-1): Sierra Nevada red fox (*Vulpes vulpes necator)*, Pacific fisher (*Pekania pennanti)*, and California wolverine (*Gulo gulo luteus*) (CNDDB 2021). The state-listed bald eagle (*Haliaeetus leucocephalus)* may occur within conifer forests near large bodies of open water.

Oak Woodland

Oak woodland community types in the Planning Area include valley oak woodland, blue oak woodland, and blue oak–foothill pine. Oak woodlands are scattered throughout the Planning Area but are concentrated in the transition area between the lower valley and higher elevations of the Planning Area.

Valley oak woodland can vary from savannas of annual grasslands with few trees to dense stands of trees. This woodland is dominated by valley oak (*Quercus lobata*) but can have associates of western sycamore (*Platanus racemosa*), California black walnut (*Juglans californica* var. *hindsii*), interior live oak (*Quercus wislizenii*), box elder (*Acer negundo*), and blue oak (*Quercus douglasii*). Shrub species include California coffeeberry (*Rhamnus californica*), poison oak (*Toxicodendron diversilobum*), toyon (*Heteromeles arbutifolia*), and blackberry (*Rubus* sp.). Annual grasses and forbs dominate the herbaceous layer.

Blue oak woodland occurs in the Sierra Nevada foothills and is dominated by blue oak with interior live oak and valley oak as associates. Dominant shrub species include manzanita (*Arctostaphylos* sp.), ceanothus (*Ceanothus* sp.), redberry (*Rhamnus crocea*), California coffeeberry, poison oak, and California buckeye (*Aesculus californica*).

The blue oak–foothill pine community is co-dominated by foothill pines (*Pinus sabiniana*) and blue oaks and occurs at slightly higher elevations than blue oak woodland. Other representative tree species include interior live oak, valley oak, and California buckeye. The understory of blue oak–foothill pine woodlands in the Planning Area contains several shrub species clumped together and interspersed with patches of annual grassland. Dominant shrub species include manzanita, ceanothus, redberry, California coffeeberry, poison oak, blue elderberry (*Sambucus nigra* ssp. *caerulea*), gooseberry (*Ribes* sp.), silver lupine (*Lupinus albifrons*), and western redbud (*Cercis occidentalis*).

Oak woodlands are important habitats because of their high value to wildlife in the form of nesting sites, cover, and food (Mayer and Laudenslayer 1998). Birds associated with oak woodlands include acorn woodpeckers (*Melanerpes formicivorus*), Nuttall's woodpeckers (*Picoides nuttallii)*, California scrub jay (*Aphelocoma californica)*, yellow-billed magpie (*Pica nuttalli*), and many warblers and flycatchers. Cavities in oak trees are important nesting sites for American kestrel (*Falco sparverius*), tree swallow (*Tachycineta bicolor*), oak titmouse (*Baeolophus inornatus*), house wren (*Troglodytes aedon*), and western bluebird (*Sialia mexicana*). Tree cavities also provide important roosting habitat for some species of bats. Oak woodlands provide nesting sites for raptors, such as red-tailed hawks (*Buteo jamaicesis*), red-shouldered

hawks (*Buteo lineatus*), and great horned owls (*Bubo virginianus*) (Zeiner et al. 1990a). Mammals associated with woodlands include western gray squirrel, pallid bat (*Antrozous pallidus*), bobcat (*Lynx rufus*), blacktail deer, and gray fox (Zeiner et al. 1990b). Acorns are an important food source for species such as California quail (*Callipepla californica*), wild turkey (*Meleagris gallopavo*), western gray squirrel, and blacktail deer (Mayer and Laudenslayer 1998).

Special-status wildlife species that may occur in this community type include western spadefoot (*Spea hammondii*), Cooper's hawk (*Accipiter cooperii*), golden eagle, and Townsend's big-eared bat (*Corynorhinus townsendii*).

Two federally or state-listed species may occur within oak woodland in the Planning Area (Table 5.4-1): valley elderberry longhorn beetle and Swainson's hawk (*Buteo swainsoni*) (CNDDB 2021).

Oak woodland is a common habitat locally and regionally and in most instances is not considered by CDFW to be a sensitive natural community; however, native oak trees and woodland habitats are declining statewide because of development and land management practices. For this reason, oak woodlands in the Planning Area should be considered in the context of the Butte County Oak Woodlands Management Plan Resolution.

Riparian Woodland

Riparian woodland occurs throughout the Planning Area along portions of the Feather River, Thermalito Afterbay and Forebay, Thermalito Diversion Pool, and along numerous smaller perennial and ephemeral drainages. Riparian woodlands are commonly associated with dredge tailings. Riparian woodlands in the Planning Area are typically dominated by a mixture of trees and shrubs, including Fremont cottonwood (*Populus fremontii*), valley oak, Oregon ash (*Fraxinus latifolia*), Himalayan blackberry (*Rubus armeniacus*), and a variety of willows (*Salix* sp.).

Because the vegetation is diverse and well developed, riparian forest provides high-value habitat for wildlife, including several special-status species. Riparian forest habitat provides food, water, and migration and dispersal corridors, as well as escape, nesting, and thermal cover for many wildlife species (Mayer and Laudenslayer 1998). Invertebrates, amphibians, and aquatic reptiles live in aquatic and adjacent upland habitats. Raptors, herons, egrets, and other birds nest in the upper canopy. Various songbirds use the shrub canopy, and cavity-nesting birds, such as Nuttall's woodpecker and oak titmouse, occupy dying trees and snags (Zeiner et al. 1990a). Several mammals, including raccoons (*Procyon lotor*), Virginia opossum (*Didelphis virginiana*), and striped skunks (*Mephitis mephitis*) are common in riparian habitats (Zeiner et al. 1990b).

Riparian woodlands also provide nesting habitat for several special-status raptors, including osprey, Cooper's hawk, and white-tailed kite. Cavities within riparian trees along waterways in the Planning Area may be used as roosting sites by some species of special-status bats, such as the pallid bat (*Antrozous pallidus*).

Riparian habitats are considered sensitive natural communities and should be given special consideration in the Planning Area because they provide several important ecological functions, including streambank stabilization, water quality maintenance, and essential habitat for wildlife and fisheries resources.

Six federally or state-listed species may occur within riparian woodland in the Planning Area (Table 5.4-1): valley elderberry longhorn beetle, bald eagle, Swainson's hawk, least Bell's vireo, willow flycatcher (*Empidonax traillii*), and western yellow-billed cuckoo (CNDDB 2021). Western yellow-billed cuckoos could nest in very dense areas of riparian woodland along the Feather River.

Sierran mixed conifer occurs in areas of greater precipitation than ponderosa pine forest. Sierran mixed conifer is a multilayered forest type at middle elevations in the northern Sierra that includes conifers such as white fir, Douglas fir, ponderosa pine, sugar pine, and incense-cedar with California black oak. Many species of shrubs, grasses, and forbs occur in the understory of this forest type.

Chaparral

Chaparral occurs on foothill slopes, within the understory of woodlands, and at higher elevations of the Planning Area. This community is adapted to wildfires and at lower elevations is dominated by common manzanita, whiteleaf manzanita (*Arctostaphylos viscida*), and scrub oak (*Quercus berberidifolia*) with associate species such as toyon, California buckeye, and poison oak. At higher elevations, whiteleaf manzanita may be the only dominant shrub, and it often occurs on serpentine or gabbro substrates. Chaparral also provides suitable habitat for many special-status plant species listed in Table 5.4-2.

Chaparral provides habitat for a variety of birds and mammals. Numerous rodents, deer, and other herbivores are common in chaparral communities. Montane chaparral provides important summer range foraging areas, escape cover, and fawning habitat for deer. Rabbits and hares will eat twigs, evergreen leaves, and bark from chaparral in fall and winter when there is not an abundance of grasses. Shrubby vegetation provides mammals with shade during hot weather and protection from wind in the winter. Chaparral provides seeds, fruits, insects, and protection from predators and the weather in addition to singing, roosting, and nesting sites for many species of birds (Mayer and Laudenslayer1988). Sagebrush lizard (*Sceloporus graciosus*), California quail (*Callipepla californica*), Bewick's wren (*Thryomanes bewickii*), wrentit (*Chamaea fasciata*), brush mouse (*Peromyscus boylii*), and black-tailed deer are common in chaparral habitats (Zeiner et al. 1988).

Special-status wildlife species that may occur in chaparral habitat include Blainsville's horned lizard (*Phrynosoma blainvillii*) at lower elevations and Sierra Nevada snowshoe hare (*Lepus americanus tahoensis*) at upper elevations (Zeiner et al. 1988b).

One federally and state-listed species may occur within chaparral habitat in the Planning Area (Table 5.4-1): Layne's ragwort (*Packera layneae*) (CDDDB 2010).

Mixed chaparral is a common habitat regionally and in most instances is not considered by the CDFW to be a sensitive natural community.

Annual Grassland

Annual grasslands occur throughout the Planning Area. Large, open areas of annual grasslands occur primarily in the central portion of the Planning Area and are typically grazing pastures for livestock. Annual grasslands also form the understory for oak woodland and occur as vacant parcels in developed areas. Annual grasslands in the Planning Area are dominated by nonnative annual grasses with intermixed annual and perennial forbs, including wild oat (*Avena fatua*), ripgut brome (*Bromus diandrus*), soft chess (*Bromus hordeaceus*), fescue (*Festuca* sp.), clover (*Trifolium variegatum*), wild mustard (*Brassica* sp.), and wild radish (*Raphanus raphanistrum*).

Annual grasslands are used by many wildlife species for foraging. Some of these species also breed in annual grassland if special habitat features such as cliffs, caves, ponds, or woody plants are available for breeding or resting or as escape cover. Reptiles that breed in annual grassland habitats include western fence lizards (*Sceloporus occidentalis*), common garter snake (*Thamnophis sirtalis*), and Northern Pacific rattlesnake (*Crotalus oreganus oreganus*). Grasslands provide foraging habitat for wide-ranging species such as red-tailed hawk, turkey vulture (*Cathartes aura*), American kestrel, and northern harrier (*Circus cyaneus*). Mammals typically found in this habitat include California vole (*Microtus californicus*), western harvest mouse (*Reithrodontomys megalotis*), California ground squirrel, black-tailed jackrabbit (*Lepus californicus*), and coyote (*Canis latrans*) (Mayer and Laudenslayer 1988). In addition, many species that nest or roost in adjacent woodlands may forage in grasslands, including western bluebird, western kingbird (*Tyrannus verticalis*), and some species of bats.

Special-status wildlife species that could breed or nest within annual grasslands in the Planning Area include Blainsville's horned lizard, northern harriers, western burrowing owls (*Athene cunicularia*), and American badgers (*Taxidea taxus*). Annual grasslands also provide important foraging habitat for special-status resident and wintering birds, including ferruginous hawk (*Buteo regalis*), merlin (*Falco columbarius*), northern harrier, golden eagle, and loggerhead shrike (*Lanius ludovicianus*).

One federally and state-listed species may occur within annual grassland in the Planning Area (Table 5.4-1): Swainson's hawk (CNDDB 2021).

Annual grassland is a common habitat locally and regionally and in most instances is not considered by CDFW to be a sensitive natural community.

Open Water

Open water communities in the Planning Area include several large reservoirs, numerous small ponds throughout agricultural areas, and riverine habitats in perennial and ephemeral drainages. Most of these areas are regulated under the jurisdiction of the USACE and the RWQCB.

Reservoirs

There are many reservoirs in Butte County. Some of the larger reservoirs include Lake Oroville, Thermalito Forebay and Afterbay, and Sly Creek Reservoir. The largest reservoirs in the county are Lake Oroville and Thermalito Forebay and Afterbay, located on the Feather River. They are discussed in more detail below. Sly Creek Reservoir is currently stocked with rainbow trout (*Oncorhynchus mykiss*) and has previously

been stocked with brown trout (*Salmo trutta*) and kokanee salmon (*Oncorhynchus nerka*)(NorCAlFishReports 2021; USDA Forest Service 2021). Most of these lakes provide recreational opportunities in the county.

The Thermalito Afterbay and Thermalito Forebay are large reservoirs on the Feather River that were formed by earthen dams. These facilities are part of a larger Oroville Water Storage System that was created by the State Water Project for purposes of water storage and delivery. These features also provide hydroelectric power outside of the Planning Area. The Oroville Reservoir (also known as Lake Oroville) located northeast of Oroville is the principal water storage facility of the State Water Project, which conserves and delivers water to over two-thirds of California's population.

The Thermalito Afterbay and Thermalito Forebay provide important resting and foraging habitat for migratory waterfowl traveling along the Pacific Flyway. As shown in Figure 5.4-1, the Thermalito Afterbay is part of the larger Oroville Wildlife Area. The eastern portion of the preserve surrounding the Feather River contains numerous dredge tailings and borrow pits. These areas support riparian woodlands, freshwater marsh, and open water habitats. More than 170 species of resident and migratory birds use this area, in addition to mammals such as river otter (*Lutra canadensis*), beaver (*Castor canadensis*), raccoon, and muskrat (*Ondatra zibethicus*). A known heron rookery is also present within the Oroville Wildlife Area along Larkin Road. Thermalito Forebay is managed by the CDFW as a put-and-take fishery of 0.5-pound rainbow and brook trout, with small numbers of warmwater fish. Because Thermalito Afterbay connects with the Forebay, some trout migrate into this area. However, the primary fishery is largemouth bass (DWR 2001).

Ponds

Ponds are one type of lacustrine habitat that include areas of shallow open water, although areas of rooted freshwater marsh or floating plants may occur within this habitat. Ponds may be naturally occurring or manmade for stock and other uses.

Drainages

Perennial and ephemeral drainages occur throughout the Planning Area. These drainages typically are associated with riparian habitat described above and may support areas of freshwater marsh. Primary drainages within the Planning Area include the Sacramento River, Feather River, Butte Creek, and Little Chico Creek. The fisheries for these major drainages are described below.

One state-listed species may occur within drainages of the Planning Area (Table 5.4-1): Bank swallow (*Riparia riparia*), as it will dig nesting holes in vertical banks along rivers (CNDDB 2021).

Sacramento River

The Sacramento River forms Butte County's western border and is California's largest river. The Sacramento River watershed benefits from a large snowpack, which supports flow throughout the spring and early summer. The Sacramento watershed contains Lake Shasta and Lake Oroville, the two largest reservoirs in California, which are major features of the federal Central Valley Project and State Water

Project, respectively. The Sacramento River conveys two-thirds of California's water via the Central Valley and State Water Projects.

Several wildlife areas/refuges exist along the Sacramento River. In addition, the State Legislature passed SB 1086 in 1986, which called for a management plan for the Sacramento River and its tributaries that would protect, restore, and enhance both fisheries and riparian habitat (Sacramento River Forum 2021). As a result of SB 1086, in 2001, the Department of Water Resources developed the Sacramento River Conservation Area Handbook, which set forth a management program for the Sacramento River Conservation Area. The overall goal of the management program for the Sacramento River Conservation Area (SB 1086) is to preserve remaining riparian habitat and reestablish a continuous riparian ecosystem along the Sacramento River between Redding and Chico and to reestablish riparian vegetation along the river from Chico to Verona. Since the development of the management program, "many of the fisheries action items have been, or are currently being implemented, such as fish bypass structures at diversions on Sacramento River tributaries and the Shasta Dam temperature control structure" (Sacramento River Forum 2021).

Within the Planning Area, common fish species expected to occur in the Sacramento River include Sacramento sucker (*Catostomus occidentalis*), Sacramento pikeminnow (*Ptychocheilus grandis*), hardhead (*Mylopharodon conocephalus*), hitch (*Lavinia exilicauda*), threespine stickleback (*Gasterosteus aculeatus*), and tule perch (*Hysterocarpus traskii*), in addition to introduced species. Special-status fish species that occur in the Sacramento River include fall/late fall-run Chinook salmon and hardhead. River lamprey (*Lampetra ayresii*) may occur in the Sacramento River also.

Four of the five federally and state-listed fish species have known occurrences within the Sacramento River portion of the Planning Area (Table 5.4-1): Sacramento River winter-run ESU Chinook salmon, Central Valley spring-run ESU Chinook salmon, North American green sturgeon, and California Central Valley DPS steelhead (CNDDB 2021). Delta smelt do not occur within the county or Planning Area; however, they occur further downstream in the Sacramento River and thus have potential to occur within the Planning Area.

Feather River

The Feather River watershed drains more than 3,200 square miles of land from the crest of the Sierras west to the Sacramento River. The watershed has a wide variety of terrain, climate, and plant and animal species. Vegetation communities include mixed conifer, deciduous riparian forests, and alluvial meadows. The lower watershed is characterized by intense human use (from agriculture, urbanization, and recreation, etc.) (SRWP 2021).

The Feather River supports a diverse assemblage of native and nonnative species. Anadromous and other migratory species include state sensitive Central Valley fall-run Chinook salmon, federally and state-listed Central Valley spring-run Chinook salmon, federally listed Central Valley steelhead, white sturgeon (*Acipenser transmontanus*), federally listed green sturgeon, Pacific lamprey (*Lampetra tridentata*), striped bass (*Morone saxatilis*), and American shad (*Alosa sapidissima*). Native resident freshwater fish present in the Feather River include state sensitive hardhead, speckled dace (*Rhinichthys osculus*), California roach (*Lavinia symmetricus*), Sacramento sucker, and Sacramento pikeminnow. Nonnative fish species, such as

carp (*Cyprinus carpio*), mosquitofish (*Gambusia affinis*), smallmouth bass (*Micropterus dolomieu*), green sunfish (*Lepomis cyanellus*), bluegill (*Lepomis macrochirus*), and redear sunfish (*L. microlophus*), are also present (Jones and Stokes 2004).

Additionally, the Feather River hatchery produces and releases fall- and spring-run Chinook salmon and steelhead into the Feather River and the Sacramento-San Joaquin River Delta. The Feather River salmon and steelhead hatchery is in the City of Oroville and operated by the CDFW. The hatchery was constructed in 1967 to mitigate the loss of salmonid habitat due to the construction of Oroville Dam.

Butte Creek

Butte Creek supports the largest remaining run of wild spring-run Chinook salmon in California. Additionally, this creek and its tributaries also support small populations of steelhead trout and late-fall-run Chinook salmon. Annual counts of Chinook salmon since 1960 ranged from 10 to 11,470 spring-run Chinook salmon and 0 to 4,433 fall-run Chinook salmon (GrandTab 2020).

Problems in Butte Creek include inadequate fish passage over diversion dams, unblocked drains that attract and strand fish, and poor water quality. Areas of Upper Butte Creek have water temperatures above tolerance levels for salmonids, which can result in mortality of over-summering adults, a situation that was observed in 2002, 2003, and 2013 (Garman 2013). Numerous fishery restoration projects were implemented in Butte Creek between 1993 and 2005 through the collaboration of many organizations (CDFW 2005).

Big Chico Creek

Big Chico Creek supports small, nonsustaining populations of spring-run Chinook salmon in some years. In addition, there is evidence of small populations of steelhead trout and late-fall-run salmon occurring within this creek. Annual counts of Chinook salmon since 1960 ranged from 0 to approximately 500 spring-run Chinook salmon and 0 to 500 fall-run Chinook salmon; however, the last fall-run estimate was made in 1985 (GrandTab 2020). Historically, state sensitive fall-run Chinook salmon were the main salmonid species in Big Chico Creek, but they have declined since, and a remnant population may remain. Federally listed Central Valley DPS steelhead trout also have decreased to low populations in this waterway. The decline of these populations is attributed to a lack of access to the upper watershed due to the shifting of massive boulders at Salmon Hole in Upper Bidwell Park and a broken fish ladder. Additional hardships for migratory fish include intermittent flows in Lindo Channel, poor fish passage at the One Mile Recreation Area of Bidwell Park, and inadequate fish passage at the Five-Mile Culvert Dam and Iron Canyon. Although excellent spawning gravels are available in Lindo Channel, inconsistent flows prevent successful spawning in most years. CDFW has completed the major portion of a plan to restore the anadromous fishery of Big Chico Creek (CSUC 2021).

Numerous creeks also occur in the Planning Area, from the higher elevation areas down into the lower valley area, where the major creeks occur and drain to the rivers. The Planning Area also includes man-made canals, such as the Western Canal, Cherokee Canal, and Main Drainage Canal, and irrigation ditches. Open water and riverine habitat provide habitat for a variety of wildlife. Birds such as herons and belted kingfishers (*Ceryle alcyon*) forage in these communities, primarily along the water's edge. Many species of

insectivorous birds (e.g., swallows, swifts, and flycatchers) catch their prey over open water. Mammals that can be found in and along riverine habitat include river otter, muskrat, beaver, and raccoon.

Special-status wildlife species that could occur within perennial and ephemeral drainages in the Planning Area include foothill yellow-legged frog (Feather River clade; *Rana boylii*) and northwestern pond turtle (*Actinemys marmorata*). These species have been recorded within the Planning Area and are presumed extant (CNDDB 2021).

Four federally or state-listed species may occur within perennial and ephemeral drainages in the Planning Area (Table 5.4-1): California red-legged frog, Sierra Nevada yellow-legged frog (*Rana sierrae*), Cascades frog (*Rana cascadae*), and willow flycatcher (CNDDB 2021). There is designated critical habitat for California red-legged frog within the Planning Area.

Drainages are considered *other waters of the United States* by the USACE and are regulated by the USACE, RWQCB, CDFW, and USFWS.

Wetlands

Wetlands are regulated by several resource agencies. Some wetland habitats are considered by CDFW to be sensitive natural communities but all should be given special consideration in the Planning Area because they provide a variety of important ecological functions and essential habitat for wildlife resources. Natural wetland habitats are steadily declining compared to their historical distribution, as a result of land management practices and development activities. The USACE, RWQCB, CDFW, and the USFWS have policies and regulations that protect wetland habitats.

Three main categories of wetlands occur in the Planning Area: freshwater marsh, wet meadow, and vernal pool. Each of these wetland types is described below.

Freshwater Marsh

Freshwater marsh occurs along the margins of drainages and open water habitats in the Planning Area. Flooded rice fields in the Planning Area also support patches of freshwater marsh. Characteristic vegetation within freshwater marsh includes cattails (*Typha* sp.), rushes (*Juncus* sp.), and sedges (*Carex* sp.).

Freshwater marsh is among the most productive wildlife habitats in the State. Vegetation associated with freshwater marsh provides foraging, nesting, and refuge habitat for numerous wildlife species that also occur in the adjacent open water (Mayer and Laudenslayer 1988). Common wildlife that is expected to occur in freshwater marsh habitats within the Planning Area include Sierran tree frog (*Pseudacris sierra*), common garter snake, great egret (*Ardea alba*), great blue heron (*Ardea herodias*), red-winged blackbird (*Agelaius phoeniceus*), and song sparrow (*Melospiza melodia*) (Zeiner et al. 1988).

In the Planning Area, special-status wildlife species such as northwestern pond turtle, northern harrier, and song sparrow may nest, take cover, and forage within freshwater marsh vegetation, in drainages and irrigation canals.

Three federally or state-listed species that may occur within freshwater marsh in the Planning Area (Table 5.4-1): California red-legged frog, giant garter snake, and California black rail (CNDDB 2021). There is designated critical habitat for California red-legged frog within the Planning Area.

Wet Meadow

Wet meadow habitat occurs at higher elevations in the eastern portion of the Planning Area. Dominant species in wet meadows include herbaceous wetland plants such as sedges, rushes, spikerush (*Eleocharis* spp.), bent grass (*Agrostis* spp.), and oatgrass (*Danthonia* spp.). There are generally sparse or no shrubs or trees in wet meadows. Special-status plants associated with wet meadow habitat include Ferris' milk vetch (*Astragalus tener* var. *ferrisiae*), resin birch (*Betula glandulosa*), scalloped moonwort (*Botrychium ascendens*), thread-leaved beakseed (*Bulbostylis capillaris*), Butte County calycadenia (*Calycadenia oppositifolia*), Sierra arching sedge (*Carex cyrtostachya*), shore sedge (*Carex limosa*), marsh claytonia (*Claytonia palustris*), California pitcherplant (*Darlingtonia californica*), English sundew (*Drosera anglica*), slender cottongrass (*Eriophorum gracile*), fern-leaved monkeyflower (*Erythranthe filicifolia*), California satintail (*Imperata brevifolia*), three-ranked hump moss (*Meesia triquetra*), broad-nerved hump moss (*Meesia uliginosa*), tall alpine-aster (*Oreostemma elatum*), California alkali grass (*Puccinellia simplex*), alder buckthorn (*Rhamnus alnifolia*), California beaked-rush (*Rhynchospora californica*), giant checkerbloom (*Sidalcea gigantea*), long-leaved starwort (*Stellaria longifolia*), and flat-leaved bladderwort (*Utricularia minor*).

Wet meadows provide sources of drinking water for deer and other mammals and various species of birds. Deer and elk (*Cervus canadensis*) also may feed on forbs and grasses in wet meadows. Open areas of water, such as pools and streams, may be occupied by trout and waterfowl. If dense vegetation is present within the meadow, certain species of birds, such as yellow-headed (*Xanthocephalus xanthocephalus*) and red-winged blackbirds, may nest in these areas (Mayer and Laudenslayer 1988). Amphibians such as Sierran tree frogs, western toads (*Bufo boreas*), Sierra Nevada yellow-legged frogs, and long-toed salamander (*Ambystoma macrodactylum*) may occur in wet meadows (Zeiner et al. 1988). If the meadow dries in the summer, small mammals may forage in the grasses in this area (Mayer and Laudenslayer 1988).

Wet meadows in the Planning Area may provide suitable habitat for special-status wildlife species including northwestern pond turtle.

Three federally or state-listed species may occur within wet meadow in the Planning Area (Table 5.4-1): Cascades frog, Sierra Nevada yellow-legged frog, and tricolored blackbird (*Agelaius tricolor*) (CNDDB 2021).

Vernal Pool

Vernal pools occur primarily in the central portion of the Planning Area. A large area of vernal pools is located north and south of Cottonwood Road between Highways 99 and 70; these pools are northern volcanic mud-flow vernal pools. Vernal pools in the Planning Area occur within annual grasslands and represent a variety of pool types, including northern hardpan and northern volcanic mud-flow pools. Representative plant species observed within these pools include hairgrass (*Eleocharis* sp.), coyote thistle

(*Eryngium* sp.), navarretia (N*avarretia* sp.), slender woollyheads (*Psilocarphus tenellus*), and calicoflower (*Downingia* sp.).

Amphibians such as Pacific tree frogs and western toads use vernal pools and seasonal swales for breeding. Insect larvae and aquatic invertebrates commonly occur in vernal pools and provide a valuable food source for amphibians as well the many birds that overwinter in or migrate through the Planning Area. Larger vernal pools and seasonal swales provide foraging habitat for a number of bird species, including killdeer (*Charadrius vociferus*), greater yellowlegs (*Tringa melanoleuca*), great egret (*Ardea alba*), and black-necked stilt (*Himantopus mexicanus*).

Vernal pools provide habitat for several special-status species, including Henderson's bent grass (*Agrostis hendersonii*), brittlescale (*Atriplex depressa*), subtle orache (*Atriplex subtilis*), valley brodiaea (*Brodiaea rosea* ssp. *vallicola*), pappose tarplant (*Centromadia parryi* ssp. *rudis*), hogwallow starfish (*Hesperevax caulescens*), Ahart's dwarf rush (*Juncus leiospermus* var. *aharti*), Red Bluff dwarf rush (*Juncus leiospermus* var. *leiospermus*), Ferris' goldfields (*Lasthenia ferrisiae*), woolly meadowfoam (*Limnanthes floccosa* ssp. *floccosa*), Tehama navarretia (*Navarretia nigelliformis* ssp. *nigelliformis*), California adder's-tongue (*Ophioglossum californicum*), Ahart's parinychia (*Paronychia ahartii*), California alkali grass (*Puccinellia simplex*), Butte County golden clover (*Trifolium jokerstii*), and western spadefoot toad (*Spea hammondii*). Western spadefoot toad has been reported in 12 locations in Butte County (CNDDB 2021).

Seven federally or state-listed species dependent on vernal pools are recorded as occurring within and have designated critical habitat within the Planning Area (Table 5.4-1): Hoover's spurge (*Euphorbia hooveri*), Butte County meadowfoam, hairy Orcutt grass, Greene's tuctoria, conservancy fairy shrimp, vernal pool fairy shrimp, and vernal pool tadpole shrimp (CNDDB 2021). Forty-three and 38 occurrences of vernal pool fairy shrimp and vernal pool tadpole shrimp, respectively, have been reported to the CNDDB in Butte County (CNDDB 2021).

Agricultural Land

Areas used for agriculture are scattered throughout the western half of the Planning Area. Within the Planning Area, the three most land-intensive crops in the county (rice, almonds, and English walnuts) occupy over one-third of the available agricultural acreage (BCDAC 2020). Other important crops include kiwi fruit, dried plums (prunes), peaches, and olives.

Agricultural lands are established on fertile soils that historically supported abundant wildlife. The quality of habitat for wildlife is greatly diminished when the land is converted to agricultural uses and is intensively managed. Many species of rodents and birds have adapted to agricultural lands, but they are often controlled by fencing, trapping, and poisoning to prevent excessive crop losses (Mayer and Laudenslayer 1988). However, depending on the crop pattern and the proximity to native habitats, row crops and rice fields can provide relatively high-value habitat for wildlife, particularly as foraging habitat. Raptor species use row- and grain-crop agricultural lands for foraging because several species of common rodents are found in agricultural fields. Rice fields and fallow agricultural fields provide important foraging and resting habitat for migrating and wintering waterfowl and shorebirds. Wildlife species associated with agricultural lands include mourning dove (*Zenaida macroura*), American crow (*Corvus brachyrhynchos*),

Brewer's blackbird (*Euphagus cyanocephalus*), various raptor species, egrets, and many species of rodents (Zeiner et al. 1990a).

Special-status wildlife species associated with agricultural lands, such as the northern harrier, may use adjacent irrigation canals and freshwater marsh vegetation for foraging or breeding.

Three federally or state-listed species may forage within agricultural land in the Planning Area (Table 5.4-1): Giant garter snake, Swainson's hawk, and greater sandhill crane (*Grus canadensis*) (CNDDB 2021). Giant garter snakes have the potential to occur in irrigation canals and can also use the adjacent agricultural lands as basking habitat.

Barren Land

Barren land is unvegetated and may include areas of vertical riverbanks of loose soil at lower elevations and exposed rock in alpine areas above the tree line or between high-elevation conifer forests. Urban areas also may include barren land with large expanses of pavement or buildings where there is little or no vegetation.

Because of the lack of vegetation, barren ground has a limited use by wildlife. However, some species, such as western burrowing owl, prefer areas with limited or very low-growing vegetation.

Urban Areas

Urbanized portions of the Planning Area include Chico, Paradise, Oroville, Biggs, and Gridley as well as other smaller unincorporated communities. Biological communities in these areas are relatively limited and support a predominance of horticultural plant species rather than native species.

Urban areas generally have a lower value for wildlife because of human disturbance and a lack of vegetation. Wildlife species that use these areas are typically adapted to human disturbance (Mayer and Laudenslayer 1988). However, more densely vegetated "urban forests" can provide habitat for songbirds and some raptor species. Wildlife species associated with urban residential and suburban areas include western fence lizard, California scrub jay, northern mockingbird (*Mimus polyglottos*), house finch (*Carpodacus mexicanus*), rock pigeon (*Columba livia*), fox squirrel (*Sciurus niger*), raccoon, opossum, and striped skunk (Mayer and Laudenslayer 1988).

Special Status Species

Special-status species are plants and animals that are legally protected under the State or federal ESA or other regulations, and species that are considered by the scientific community to be sufficiently rare to qualify for such listing. Special-status plants and animals are species in the following categories:

- Listed, proposed for listing, or candidates for future listing as threatened or endangered under the federal ESA;
- Listed or candidates for future listing as threatened or endangered under the California ESA;
- Meet the definitions of endangered or rare under Section 15380 of the CEQA Guidelines;

- Identified as a Species of Special Concern (SSC) by the CDFW;
- Plants considered by CNPS to be "rare, threatened, or endangered in California" (California Rare Plant Rank [CRPR] 1 and 2);
- Plants listed by CNPS as species about which more information is needed to determine their status (CRPR 3) and plants of limited distribution (CRPR 4);
- Plants listed as rare under the California Native Plant Protection Act (NPPA, California Fish and Game Code, Section 1900 et seq.); or
- Are fully protected in California in accordance with the California Fish and Game Code, Sections 3511 (birds), 4700 (mammals), 5050 (amphibians and reptiles), and 5515 (fishes).

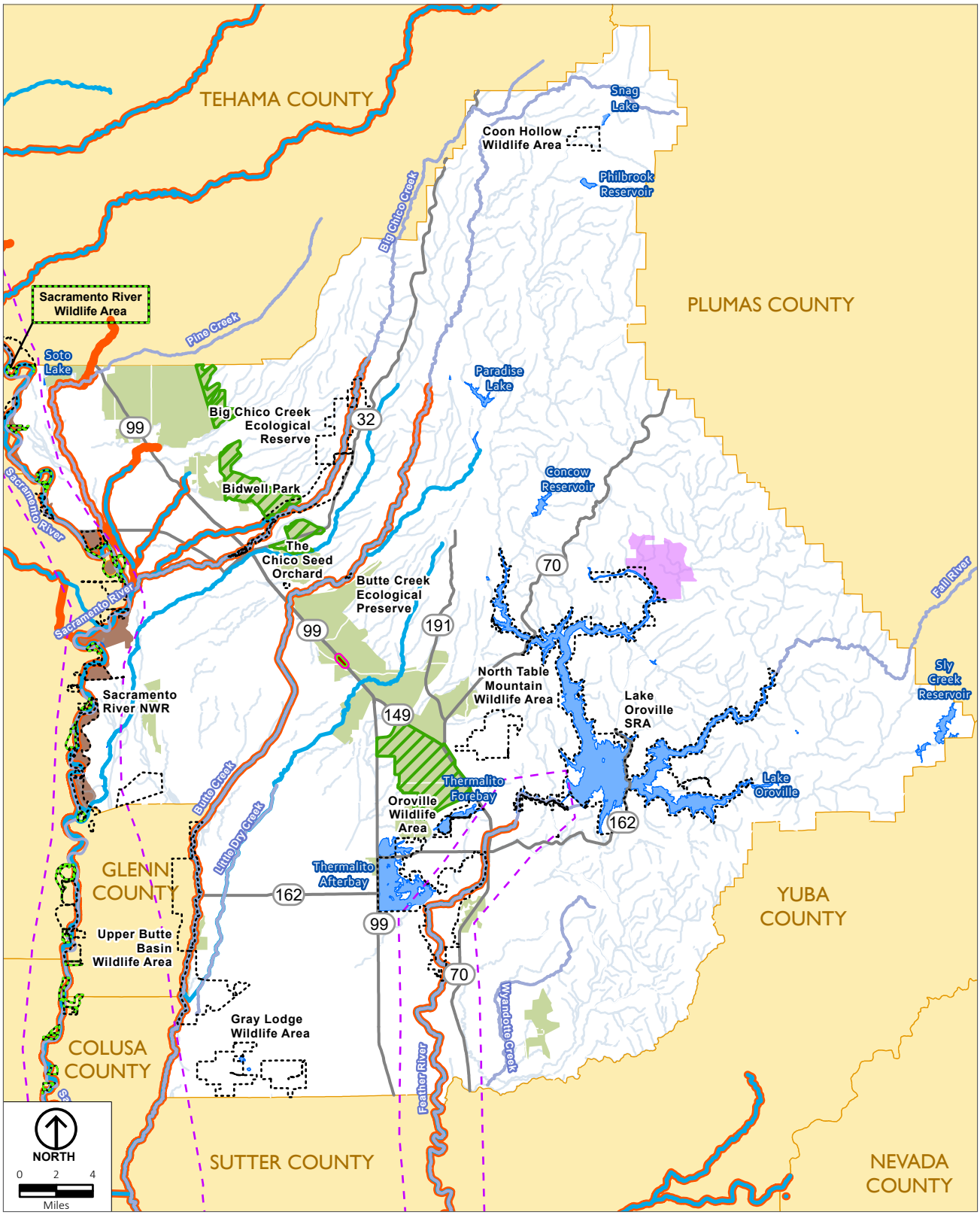
The sections below discuss the available information regarding special-status plants, wildlife, and fish known to occur or with potential to occur in the Planning Area.

In preparing the following sections, the *Ecological Baseline Conditions Report for the Butte Regional HCP/NCCP* (Baseline Report) was reviewed to ensure that the covered species in the HCP/NCCP were included in this report. The Butte Regional HCP/NCCP Planning Area includes a 564,203-acre area in the western lowlands and foothills of Butte County.

Special-Status Plants

In the Planning Area, 130 special-status plants were identified as potentially occurring or documented in the CNDDB and CNPS Rare Plant Program as occurring (Table 5.4-2) (CNDDB 2021; CNPS 2021). Of these species, five species (Hoover's spurge, Butte County meadowfoam, hairy Orcutt grass, Greene's tuctoria, and Layne's ragwort) are federally or state listed. In addition, four of these listed species (Hoover's spurge, Butte County meadowfoam, hairy Orcutt grass, and Greene's tuctoria) and one unlisted species (Butte County checkerbloom) are covered species in the Butte Regional HCP/NCCP. All of these species have been documented as occurring in the Planning Area (CNDDB 2021).

The USFWS has designated critical habitat for five of the six species listed above (all except Layne's ragwort; 70 FR 46924–46999, August 11, 2005) in the northwestern portion of the Planning Area as shown in Figure 5.4-2, *Critical Habitat*. The critical habitat locations are designated within portions of the United States Geological Survey (USGS) 7.5-minute Biggs, Campbell Mound, Chico, Foster Island, Hamlin Canyon, Nord, Oroville, Paradise West, Richardson Springs, Richardson Springs NW, Shippee, and Vina quadrangles.



Source: CDF, CSP, CDFW, USFWS, NOA.

Species with Critical Habitat

- Parks, Preserves, Wildlife Areas
- USFWS Vernal Pool Core Areas
- Spring-Run Chinook Salmon
- Central Valley DPS Steelhead
- Green Sturgeon
- California Red-Legged Frog
- Hoover's Spurge
- Butte County Meadowfoam
- Greene's Tuctoria
- Hairy Orcutt Grass
- Western Yellow-billed Cuckoo (Proposed)

Figure 5.4-2
Critical Habitat

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Special-Status Wildlife

Based on a review of existing information, 55 special-status wildlife species have been documented or have the potential to occur in Butte County (CNDDB 2021).

Twenty-one of these species are federally or state listed or are federal candidates for listing, and 24 are California species of special concern. The listing status, preferred habitat, and occurrence information for each of these species is listed in Table 5.4-3. Fifteen of the 55 species listed in Table 5.4-3 are covered species in the Butte Regional HCP/NCCP.

Critical habitat for Conservancy fairy shrimp, vernal pool fairy shrimp, and vernal pool tadpole shrimp was designated on August 11, 2005 (70 FR 46924–46999). Within Butte County, critical habitat for the branchiopods listed above is located around the Chico area and southeast to Oroville (Figure 5.4-2). The USFWS also has designated critical habitat for California red-legged frog in the eastern-central portion of the county (units BUT-1A and 1B) (71 FR 19244–19346, April 13, 2006). The habitat is in the eastern portion of the county on the USGS 7.5-minute Berry Creek and Brush Creek quadrangles. Critical habitat for western yellow-billed cuckoo was proposed on February 27, 2020 (85 FR 11458-11594) and is located along the Sacramento River (USFWS 2021a).

Special-Status Fish

Five federally and/or state-listed fish species are known to occur in Butte County (Table 5.4-4) (CNDDB 2021). An additional four species are California species of special concern. Four fish species included in Table 5.4-4 (Central Valley spring-run and fall/late-fall run Chinook salmon, green sturgeon, and Central Valley DPS steelhead) are covered in the Butte Regional HCP/NCCP (USFWS 2021a; SAIC 2019).

TABLE 5.4-4 SPECIAL-STATUS FISH SPECIES DOCUMENTED OR IDENTIFIED AS HAVING THE POTENTIAL TO OCCUR IN THE PLANNING AREA

Common and Scientific Name	Statusa Federal/ State/HCP	California Distribution	Habitats	Occurrence in the Planning Area
Delta smelt (*Hypomesus transpacificus*)	T/E/–	Sacramento-San Joaquin Delta.	Pelagic; open waters and sloughs of the Delta.	Absent. Planning area is outside the range for this species. [b]
Steelhead – California Central Valley DPS *Oncorhynchus mykiss irideus*	T/–/CS	Sacramento River and tributary Central Valley rivers	Occurs in well-oxygenated, cool, riverine habitat with water temperatures from 7.8° to 18°C (Moyle 2002). Habitat types are riffles, runs, and pools.	Feather and Sacramento Rivers and tributaries [b]
Chinook salmon (Sacramento River winter-run ESU) *Oncorhynchus tshawytscha*	E/E/–	Sacramento and San Joaquin rivers and their tributaries downstream of impassible dams and other migration barriers.	Occurs in well-oxygenated, cool, riverine habitat with water temperatures from 8.0° to 12.5°C. Habitat types are riffles, runs, and pools. (Moyle 2002.)	Sacramento River [b]
Chinook salmon (Central Valley spring-run ESU) *Oncorhynchus tshawytscha*	T/T/CS	Feather, Sacramento, and San Joaquin rivers and their tributaries downstream of impassible dams and other migration barriers.	Has the same general habitat requirements as winter-run Chinook salmon. Coldwater pools are needed for holding adults (Moyle 2002).	Feather and Sacramento Rivers and tributaries [b]
Chinook salmon (Central Valley fall/late fall-run ESU) *Oncorhynchus tshawytscha*	–/SSC/CS	Feather, Sacramento, and San Joaquin rivers and tributaries downstream of impassible dams and other migration barriers.	Occurs in well-oxygenated, cool, riverine habitat with water temperatures from 8.0° to 12.5°C. Habitat types are riffles, runs, and pools (Moyle 2002).	Feather River and Sacramento River
Green sturgeon (southern distinct population segment) *Acipenser medirostris*	T/SSC/CS	Sacramento, lower Feather, and Klamath and Trinity rivers (Moyle 2002)	Spawns in large river systems with well-oxygenated water, with temperatures from 8.0° to 14°C.	Feather River and Sacramento River [b]
River lamprey *Lampetra ayresi*	–/SSC/–	Sacramento, San Joaquin, and Napa rivers; tributaries of San Francisco Bay (Moyle 2002; Moyle et al. 1995)	Adults live in the ocean and migrate into fresh water to spawn.	Feather River and Sacramento River
Hardhead *Mylopharodon conocephalus*	–/SSC/–	Sacramento-San Joaquin and Russian River drainages. In the San Joaquin River, scattered populations found in tributary streams, but only rarely in the valley reaches of the San Joaquin River.	Relatively undisturbed streams at low to mid elevations.	North Fork Feather River

Common and Scientific Name	Status[a] Federal/ State/HCP	California Distribution	Habitats	Occurrence in the Planning Area
Sacramento splittail *Pogonichthys macrolepidotus*	–/SSC/–	Occurs throughout the year in low-salinity waters and freshwater areas of the Sacramento–San Joaquin Delta, Yolo Bypass, Suisun Marsh, Napa River, and Petaluma River (Moyle 2002).	Spawning takes place among submerged and flooded vegetation in sloughs and the lower reaches of rivers.	Not likely to occur in the Planning Area.

[a] Status:

Federal
E = listed as endangered under the federal Endangered Species Act.
T = listed as threatened under the federal Endangered Species Act.
C = candidate for threatened or endangered status.
SC = species of concern.
FP = proposed for delisting.

State
E = listed as endangered under the California Endangered Species Act.
T = listed as threatened under the California Endangered Species Act.
FP = fully protected under the California Fish and Game Code.
SSC = species of special concern in California.

Butte County Habitat Conservation Plan (HCP) and Natural Community Conservation Plan (NCCP)
CS = Covered Species

Sources: Moyle, P.B., 2002. *Inland fishes of California*. 2nd edition. Davis, CA: University of California Press. Moyle, P.B., R.M. Yoshiyama, J.E. Williams, and E.D. Wikramanayoke, 1995. *Fish Species of Special Concern of California*. California Department of Fish and Game. Rancho Cordova, CA.

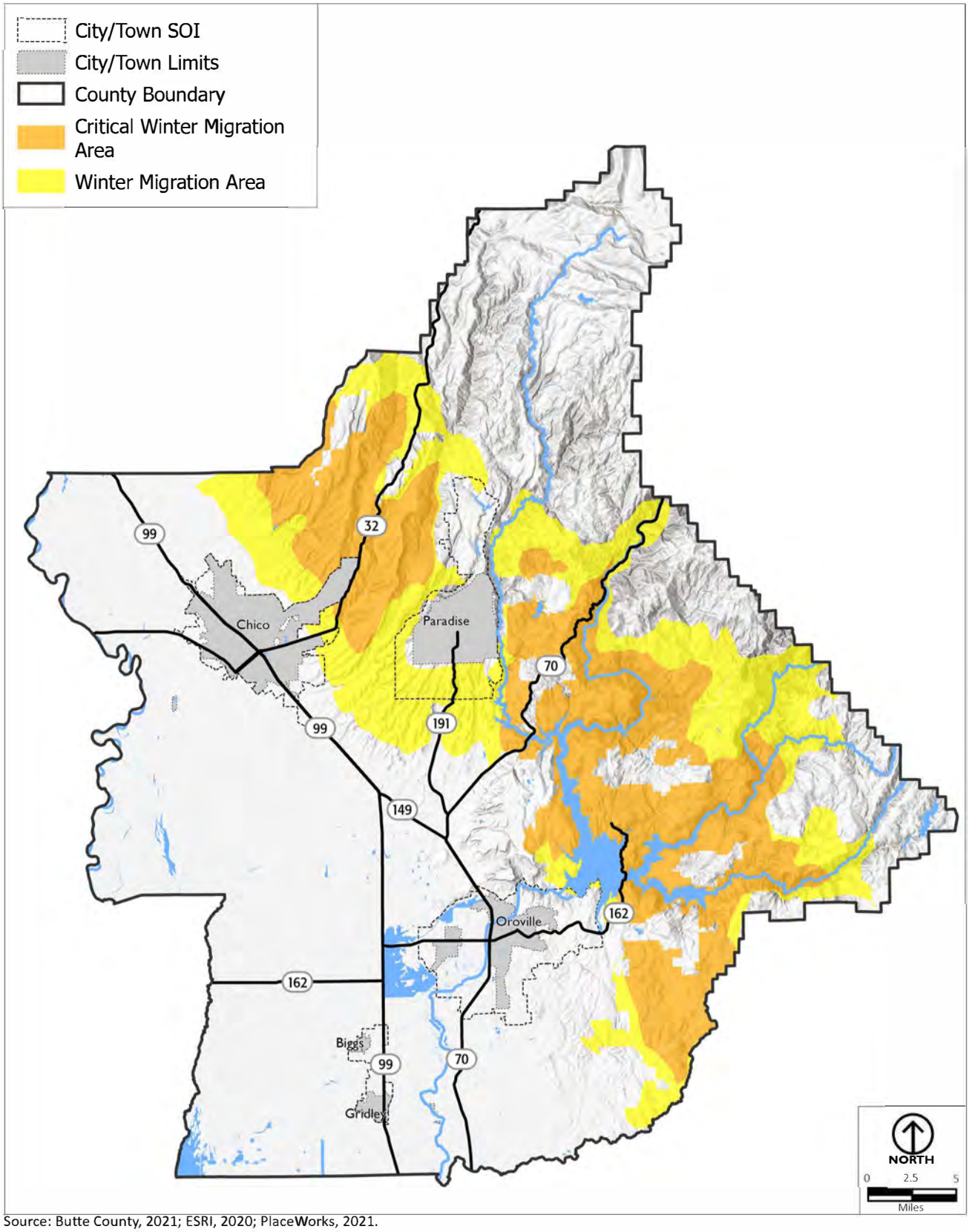
[b] Known occurrences from NMFS West Coast Region Species List (November 2016).

For fish, critical habitat includes waterways, substrate, and adjacent riparian zones that provide spawning, rearing, and migrating areas that are essential to the survival of the species. Impassable barriers such as dams or naturally impassable barriers are not included in critical habitat designation (64 FR 24050, May 5, 1999). Critical habitat for steelhead, green sturgeon, and Chinook salmon is designated within Butte County.

Critical habitat for Central Valley steelhead (70 FR 52614, September 2, 2005) and Central Valley spring-run Chinook salmon is designated in the Feather River from the confluence of the Yuba River upstream to Oroville Dam (70 FR 52598, September 2, 2005) and in the Sacramento River and tributaries in Butte County, such as Big Chico Creek, Lindo Channel, Mud Creek, and Rock Creek. The Sacramento River in the study area is designated as critical habitat for winter-run Chinook salmon (58 FR 33212).

Migratory Deer Herds

Protection of Butte County's resident and migratory deer herds has long been an issue of concern for the County. Efforts to protect the State's migrant deer herds were initiated in the late 1970s and early '80s by CDFW, who also developed management plans, including mapping of key migratory corridors and seasonal ranges for migratory deer herds. Using these maps, the County refined the mapping for the purposes of the General Plan Update. The update process involved a Geographic Information System (GIS) analysis of vegetation and habitat value, elevation and terrain preferences for migratory deer, fire suppression activities, and deer use based on consultations with CDFW staff. The product of these efforts is displayed on Figure 5.4-3, *Deer Herd Areas*. The County incorporated this mapping into the General Plan Conservation and Open Space Element and Land Use Element, and as the basis of the Deer Herd Migration Area Overlay in the General Plan. This GIS-based mapping allows for identification of sensitive deer habitat as part of project environmental review. The overlay requires developments to adhere to minimum lot sizes and other mitigation measures to protect the deer herd areas.



Source: Butte County, 2021; ESRI, 2020; PlaceWorks, 2021.

Figure 5.4-3
Deer Herd Areas

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Important Wildlife Areas

Important wildlife areas in Butte County are public lands that have been preserved for the benefit of wildlife. Often these areas have a recreational or educational component as well. These areas provide the essential habitat components of food, water, and shelter, as well as areas for breeding and nesting/rearing of young for wildlife. Important wildlife areas in Butte County include Big Chico Creek Ecological Reserve, Butte Creek Ecological Preserve, Upper Butte Basin, Coon Hollow, Lake Oroville State Recreation Area, Bidwell Park, Chico Seed Orchard, Gray Lodge Wildlife Area, Oroville Wildlife Area, Sacramento River Wildlife Area, and Sacramento River National Wildlife Refuge (see Figure 5.4-1). A brief overview of each of these areas follows.

Big Chico Creek and Butte Creek Ecological Preserves

The Big Chico Creek Ecological Reserve is located approximately 7 miles northeast of Chico, in the foothills of the Sierra Nevada. The preserve is 3,950 acres large and includes and protects 4.5 miles of Big Chico Creek. Habitats within the preserve include creek riffles and pools, riparian areas, oak woodlands, chaparral, pine forest, rock cliffs, and springs, which support more than 140 different wildlife species, including a number of listed species (CSUC 2021). The Butte Creek Ecological Preserve is a 93-acre parcel along the middle section of Butte Creek. The preserve includes more than a mile of habitat along the creek, which provides critical salmon habitat and spawning grounds (CSUC 2021). Chico State Enterprises is a 501(c)(3) auxiliary organization of California State University, Chico, which owns and operates both preserves.

Upper Butte Basin Wildlife Area

The Upper Butte Basin Wildlife Area is approximately 9,600 acres within the Butte Basin, a low-lying area extending from the Sacramento River south and east to the Butte Creek drainage and southward to include the Butte Sink. The area is considered one of the finest wetland habitat complexes in North America. The Wildlife Area was created to protect and/or restore some of the historical wetlands that originally characterized the area. The area provides many recreational opportunities, including fishing, hunting, and bird watching (CDFW 2021a, 2021b).

Coon Hollow Wildlife Area

Coon Hollow Wildlife Area, totaling 731 acres, occurs at 6,000 feet in elevation and contains wet meadows, riparian vegetation, timbered uplands, and mountain streams. The area provides many recreational opportunities, including fishing, hunting, hiking, and bird watching (CDFW 2021a). Species that can be observed at the area include birds of prey such as sharp-shinned hawk (*Accipiter striatus*), northern goshawk, and long-eared owl (*Asio otus*); mammals such as Townsend's big-eared bat and snowshoe hare; and herpetiles such as California newt (*Taricha torosa*) and mountain king snake (*Lampropeltis zonata*) (CDFW 2021b).

Lake Oroville State Recreation Area

Lake Oroville, at the Lake Oroville State Recreation Area, is a human-made lake that was created when a 770-foot earthen dam was constructed within the Feather River. (State Parks 2021) The lake contains various fish species, including catfish, crappie, bluegill, red eye bass (*Micropterus coosae*), largemouth bass (*Micropterus salmoides*), smallmouth bass, spotted bass (*Micropterus punctulatus*), and sturgeon (Lake Oroville 2013). The lake primarily functions as a recreation area but also provides habitat, water, and foraging opportunities for wildlife. The recreation area includes the Feather River Fish Hatchery (State Parks 2021).

Bidwell Park

Bidwell Park is a city park that was established in 1905 through a donation of 2,500 acres of land by Annie Bidwell. Since it originated, the City of Chico has purchased additional land, making Bidwell Park one of the largest municipal parks in the country, totaling 3,670 acres (Chico 2021). Five miles of Big Chico Creek flow through the park. The park is divided into "Lower Bidwell Park" and "Upper Bidwell Park." Lower Bidwell Park is a flat area within the valley, and Upper Bidwell Park has steep, rocky terrain within the foothills of the Sierra Nevada. Big Chico Creek within Lower Bidwell Park has a well-developed riparian forest along it, whereas in Upper Bidwell Park, the area along the creek is open and rocky. Bidwell Park contains various plant communities that provide habitat for a wide diversity of both native plant species and wildlife. A number of special-status mammal, birds, reptiles, amphibians, and fish species are known to occur in the park, and it provides habitat for many more special-status species (CSUC 2000).

Chico Seed Orchard

The Chico Seed Orchard is 209 acres and in the City of Chico. It began operations in 1904 when the site was assigned to the Agricultural Research Service. The center is owned and managed by the US Department of Agriculture Forest Service, Mendocino National Forest, and is an important part of reforestation efforts throughout the United States. Native conifer seedlings that have been developed with the most desirable characteristics for growth, vigor, and disease resistance are grown at the center and then planted throughout the United States. The center has a nature trail that meanders through a botanical area in Edgar Slough that provides habitat for several wildlife species (USDA Forest Service 2021a). Trees and plants at the center provide habitat for 200 species of birds, as well as resident snakes and mammals (CWW 2021).

Table Mountain

Table Mountain is a plateau of ancient volcanic rock just north of Oroville. The CDFW owns a portion of Table Mountain and manages it as a wildlife area. Most people know the area for its unique and spectacular spring wildflower display that occurs after vernal pools on the mountain have dried. Other habitats at Table Mountain include open grasslands, oak woodlands, vertical cliff faces, beds of angular volcanic cobble, and wetlands, which provide food, shelter, and water for several animals, including reptiles, birds, and mammals. Special-status birds that occur at the wildlife area include burrowing owl, peregrine falcon, Swainson's hawk, and golden eagle (Begley 2000).

Gray Lodge Wildlife Area

The Gray Lodge Wildlife Area is a 9,100-acre wildlife preserve southwest of Gridley. The wildlife area is managed by the CDFW. Its location along the Pacific Flyway provides habitat for many species of birds, including more than 1 million wintering waterfowl, as well as gulls, American white pelicans (*Pelecanus erythrorhynchos*), hawks, eagles, white-tailed kites, and owls, including burrowing owls. Freshwater marsh is abundant within the refuge, supporting a diversity of wetland plants, invertebrates, fish, amphibians, reptiles, water birds, and mammals. There are also about 600 acres of riparian woodlands within the Gray Lodge Wildlife Area, providing habitat for aquatic and terrestrial species like the garter snake, great blue heron, ringtail (*Bassariscus astutus*), and river otter (CDFW 2021c).

Oroville Wildlife Area

The 11,870-acre Oroville Wildlife Area is located 5 miles west of Oroville. It was created subsequent to construction of the Oroville Reservoir to provide wildlife habitat as mitigation for construction of the Oroville Reservoir. This artificial habitat was formed on dredge tailings along the Feather River and provides habitat for migrating waterfowl, shorebirds, and resident wildlife populations. Wildlife habitats at the Oroville Wildlife Area include riparian forest bordered by 12 miles of river channel, as well as annual grassland, fresh emergent wetlands, and oak woodland. The CDFW owns and manages the Oroville Wildlife Area (CDFW 2021d).

Sacramento River Wildlife Area

The Sacramento River Wildlife Area is located along the Sacramento River between Highway 32 and the Glenn County–Colusa County line. It consists of five units totaling 3,737 acres that are owned and managed by the CDFW. Three of the units are located within or partially within Butte County. Habitats within the wildlife area include riparian woodland, meadows, and gravel bars (CDFW 2021e). These lands were acquired to preserve, enhance, and restore Sacramento River riparian wetland habitats and to provide habitat for the wildlife species associated with the area, particularly threatened and endangered species.

Sacramento River National Wildlife Refuge

The Sacramento River National Wildlife Refuge (SRNWR) is one of five national wildlife refuges (and three wildlife management areas) that comprise the Sacramento National Wildlife Refuge Complex, located approximately 90 miles north of Sacramento. The USFWS manages the SRNWR, some of which is within Butte County. Currently, the SNRWR is composed of approximately 10,000 acres of riparian habitat, wetlands, uplands, and intensively managed orchards along a 77-mile stretch of the Sacramento River between Red Bluff and Princeton. Riparian habitat in the SNRWR is critically important for anadromous fish (including four runs of Chinook salmon), migratory birds, plants, and river-system health. Animals found within the SNRWR include turtles, river otter, beaver, mountain lion (*Felis concolor*), American white pelicans, ospreys, and state-listed bank swallows (USFWS 2021a).

5.4.2 STANDARDS OF SIGNIFICANCE

The proposed project would result in a significant biological resources impact if it would:

1. 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.
2. 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 U.S. Fish and Wildlife Service.
3. 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.
4. 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.
5. Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.
6. Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.
7. In combination with past, present, and reasonably foreseeable projects, result in significant cumulative impacts with respect to biological resources.

5.4.3 PROPOSED GENERAL PLAN POLICIES

The following are relevant policies and actions of the Butte County General Plan Update that may reduce potential impacts to biological resources.

Conservation and Open Space Element

- COS-P6.1: The County shall coordinate with applicable federal, State, regional and local agencies on natural resources and habitat planning.
- COS-A6.1: Continue to work with the Butte County Association of Governments and the five municipalities to develop and implement the Butte Regional Conservation Plan, and subsequently update it as necessary.
- COS-P7.1: Conservation easements that protect habitat areas, habitat corridors and sensitive biological resources shall be promoted.
- COS-A7.1: Develop a set of guidelines for evaluating development project impacts to habitat in locations outside of the approved Butte Regional Conservation Plan Planning Area, as well as for requiring specific mitigations for impacts that are identified.

- COS-P7.2: Development patterns shall be encouraged to conserve habitat for protected species and biological resources.
- COS-A7.2: Establish a mitigation bank program for impacts to habitats for protected species, such as oak woodlands, riparian woodlands, and wetlands, in locations outside of the approved Butte Regional Conservation Plan Planning Area, using mitigation fees on new development projects as a funding mechanism.
- COS-P7.3: Creeks shall be maintained in their natural state whenever possible, and creeks and floodways shall be allowed to function as natural flood protection features during storms.
- COS-P7.4: New development projects shall mitigate their impacts in habitat areas for protected species through on- or off-site habitat restoration, and/or project design and through the provisions of the Butte Regional Habitat Conservation Plan (HCP) and Natural Community Conservation Plan (NCCP) within the HCP/NCCP Planning Area, upon the future adoption of the HCP/NCCP.
- COS-P7.5: No new development projects shall occur in wetlands or within significant riparian habitats, except within the Butte Regional Habitat Conservation Plan (HCP) and Natural Community Conservation Plan (NCCP) Planning Area where such development is consistent with the conditions of the HCP/NCCP, upon the future adoption of the HCP/NCCP.
- COS-P7.6: New development projects shall include setbacks and buffers along riparian corridors and adjacent to habitat for protected species, except where permitted in the Butte Regional Habitat Conservation Plan (HCP) and Natural Community Conservation Plan (NCCP) Planning Area and where such development is consistent with the conditions of the HCP/NCCP, upon the future adoption of the HCP/NCCP.
- COS-P7.7: Construction barrier fencing shall be installed around sensitive resources on or adjacent to construction sites. Fencing shall be installed prior to construction activities and maintained throughout the construction period.
- COS-P7.8: Where sensitive on-site biological resources have been identified, construction employees operating equipment or engaged in any development-associated activities involving vegetation removal or ground disturbing activities in sensitive resource areas shall be trained by a qualified biologist and/or botanist who will provide information on the on-site biological resources (sensitive natural communities, special-status plant and wildlife habitats, nests of special-status birds, etc.), avoidance of invasive plant introduction and spread, and the penalties for not complying with biological mitigation requirements and other State and federal regulations
- COS-P7.9: A biologist shall be retained to conduct construction monitoring in and adjacent to all habitats for protected species when construction is taking place near such habitat areas.
- COS-P7.11: The County shall work with the military to ensure that land uses under the Military Operations Areas (MOAs) encourage the fulfillment of the County's biological resource protection goals.

- COS-P8.4: Introduction or spread of invasive plant species during construction of development projects shall be avoided by minimizing surface disturbance; seeding and mulching disturbed areas with certified weed-free native mixes; and using native, noninvasive species in erosion control plantings.
- COS-P9.1: A biological resources assessment shall be required for any proposed development project where special-status species or critical habitat may be present. Assessments shall be carried out under the direction of Butte County. Additional focused surveys shall be conducted during the appropriate season if necessary. Upon adoption of the Butte Regional Habitat Conservation Plan (HCP) and Natural Community Conservation Plan (NCCP), assessment requirements of the HCP/NCCP shall be implemented for development projects within the HCP/NCCP area.
- COS-P9.2: "If special-status plant or animal species are found to be located within a development site, proponents of the project shall engage in consultation with the appropriate federal, State, and regional agencies and mitigate project impacts in accordance with State and federal law. Upon adoption of the Butte Regional Habitat Conservation Plan (HCP) and Natural Community Conservation Plan (NCCP), mitigation requirements of the HCP/NCCP shall be implemented for development projects within the HCP/NCCP area. Examples of mitigation may include:
    a. Design the proposed project to avoid and minimize impacts.
    b. Restrict construction to specific seasons based on project-specific special-status species issues (e.g., minimizing impacts to special-status nesting birds by constructing outside of the nesting season).
    c. Confine construction disturbance to the minimum area necessary to complete the work.
    d. Mitigate for the loss of special-status species by purchasing credits at an approved conservation bank (if a bank exists for the species in question), funding restoration or habitat improvement projects at existing preserves in Butte County or purchasing or donating mitigation lands of substantially similar habitat.
    e. Maintain a minimum 100-foot buffer on each side of all riparian corridors, creeks and streams for special-status and common wildlife.
    f. Establish setbacks from the outer edge of special-status species habitat areas.
    g. Construct barriers to prevent compaction damage by foot or vehicular traffic.
- COS-P10.1: Coordinate with the California Department of Fish and Game to monitor the effects of development on migratory deer herds.
- COS-A10.1: Coordinate with the California Department of Fish and Game to monitor the effects of development on migratory deer herds.

Water Resources Element

- W-P1.4: Where appropriate, new development shall be Low-Impact Development (LID) that minimizes impervious area, minimizes runoff and pollution, and incorporates best management practices.

- **W-P6.3:** Temporary facilities shall be installed as necessary during construction activities to adequately treat stormwater runoff from construction sites.
- **W-P7.1:** Any alteration of natural channels for flood control shall retain and protect riparian vegetation to the extent possible while still accomplishing the goal of providing flood control. Where removing existing riparian vegetation is unavoidable, the alteration shall allow for reestablishment of vegetation without compromising the flood flow capacity.

Land Use Element

- **LU-P1.10:** The County shall limit development in foothill and mountain areas that are constrained by fire hazards, water supply, migratory deer habitat, or infrastructure.
- **LU-P5.3:** New industrial uses shall be designed to avoid adverse impacts to adjacent uses, particularly residential neighborhoods, with respect to, but not limited to, noise, dust and vibration, water quality, air quality, agricultural resources, and biological resources.

5.4.4 IMPACT DISCUSSION

BIO-1	The proposed project would not have a substantial adverse effect, either directly or through habitat modifications, on species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations by the California Department of Fish and Wildlife or United States Fish and Wildlife Service.

General Plan 2040

Development allowed by General Plan Update could potentially impact special-status species.

Plants

A search of the CNDDB and CNPS Inventory identified 108 special-status plant species as occurring in Butte County,[1] and the status, distribution, habitat requirements, and identification period for each of these species are provided in Table 5.4-1. Artificial and unvegetated biological communities in the county, including agricultural land, unvegetated drainages, low-elevation open water (i.e. in agricultural areas and large reservoirs), and barren or urban areas are unlikely to support special-status plants. However, construction activities within annual grassland, wetland, chaparral, oak woodland, riparian woodland, or coniferous forest communities could potentially result in significant impacts on special-status plants.

[1] California Natural Diversity Database, 2009. RareFind 3, Version 3.1.0. (May 2, 2009 update). Sacramento, CA: California Department of Fish and Game.

California Native Plant Society, 2009. CNPS Inventory of Rare and Endangered Plants. On-line version, v7-09b 4-10-09. Butte County, Sacramento, CA.

There are six federally and/or State-listed plant species known to occur in Butte County, and five unlisted special-status plant species proposed as covered species in the Butte Regional HCP/NCCP (CNDDB 2010). Eight of the eleven listed or HCP/NCCP species occur in vernal pool or mesic annual grassland habitat, including Ferris' milk-vetch, Hoover's spurge, Ahart's dwarf rush, Butte County meadowfoam, hairy Orcutt grass, slender Orcutt grass, Butte County golden clover, and Greene's tuctoria. One of the eleven species, lesser saltscale, occurs in alkaline chenopod scrub or annual grassland habitat. The other two species, Layne's ragwort and Butte County checkerbloom, occur in chaparral and woodland habitat on serpentinite and gabbro soils. Although the rest of the 108 species listed in Table 5.4-1 are not federally listed, State listed, or proposed as covered species in the HCP/NCCP, losses of these special-status plants would cause potentially significant impacts under CEQA.

Wildlife

A total of 43 special-status wildlife species are known to occur or have the potential to occur in Butte County, and the status, distribution, preferred habitat, and occurrence information for each of these species is listed in Table 5.4-2. Development within or near habitat for special-status wildlife species could result in adverse impacts on these species. Potential impacts related to individual species include the following:

- Vernal Pool Branchiopods. Butte County is within the range of several federally listed vernal pool branchiopods, including conservancy fairy shrimp (endangered), vernal pool fairy shrimp (threatened), and vernal pool tadpole shrimp (endangered), and there are known occurrences of each of these species in Butte County (CNDDB 2010). Seasonal wetlands and vernal pools may provide habitat for some or all of these species. Additionally, USFWS has designated areas of critical habitat from northwest of Chico to the county line and from Chico southeast to Oroville for these three species (FR 71: 7117-7316, February 10, 2006). Construction within or near these habitats could result in mortality of listed vernal pool branchiopods or destruction of their habitat, which would be considered significant impacts.
- Valley Elderberry Longhorn Beetle. Suitable habitat for valley elderberry longhorn beetle, a federally threatened species, is present in Butte County. Suitable habitat consists of elderberry shrubs with stems 1 inch or greater at ground level. There are CNDDB records for this species within Butte County (CNDDB 2010). Significant impacts on valley elderberry longhorn beetle may result from the direct removal of shrubs or soil disturbance within the USFWS's recommended 100-foot-wide no-disturbance buffer during construction-related activities, including grading and clearing.
- California Tiger Salamander and California Red-Legged Frog. The California tiger salamander is a federally threatened species and has been proposed for listing as endangered under the CESA. The California tiger salamander is not known to occur in Butte County, but the county is within the range of this species and suitable habitat is present. The California red-legged frog, a federally threatened species, is known to occur in Butte County. Suitable aquatic breeding habitat for these species, including large vernal pools (for the California tiger salamander only), drainages with still or slow moving water, and ponds, is present within Butte County. Annual grassland and oak woodland provide suitable upland habitat for the California tiger salamander. Riparian woodland, annual grassland, oak woodland, and fallow fields occurring within 1 mile of suitable California

red-legged frog aquatic breeding habitat could be used as upland refuge sites and for dispersing by the California red-legged frog. Additionally, proposed revised critical habitat for the California red-legged frog is located in the eastern-central portion of Butte County (71 FR 53492–53680; September 16, 2008). Construction activities in or near these habitat areas could result in permanent loss and temporary disturbance of California tiger salamander and/or California red-legged frog aquatic and upland habitat, indirect impacts related to habitat modification or loss, or direct impacts in the form of loss of individual salamanders or frogs. Because California tiger salamanders and California red-legged frogs are rare in this portion of their range (CNDDB 2010), these impacts would be considered significant.

- Western Spadefoot Toad. The western spadefoot toad is a California species of special concern, and known to occur in Butte County. Suitable aquatic breeding habitat and upland grassland habitat for this toad are present within Butte County. Construction activities in or near these habitats could result in permanent loss or temporary disturbance of habitat, indirect impacts resulting in habitat modification or loss, or direct impacts in the form of loss of individual toads. These impacts would be considered significant if the subsequent population decline was large and/or affected the viability of the local population.
- Foothill Yellow-Legged Frog. The foothill yellow-legged frog is a California species of special concern, and known to occur in Butte County. Suitable habitat for the foothill yellow-legged frog may be present in perennial and intermittent drainages within Butte County. Construction activities in or near these habitats could result in permanent loss or temporary disturbance of foothill yellow-legged frog habitat, indirect impacts related to habitat modification or loss, or direct impacts in the form of loss of individuals. These impacts would be considered significant if the subsequent population decline was large and/or affected the viability of the local foothill yellow-legged frog population.
- Cascades Frog and Sierra Nevada Yellow-Legged Frog. The Cascades frog and Sierra Nevada yellow-legged frog are California species of special concern, and the Sierra Nevada yellow-legged frog is a candidate for federal listing. Both are known to occur in Butte County. Suitable habitat for the Cascades frog, including ponds and slow moving streams, and the Sierra Nevada yellow-legged frog, including streams, ponds, and lakes, are present within Butte County. Construction activities in or near these habitats could result in permanent loss or temporary disturbance of Cascades frog and/or Sierra Nevada yellow-legged frog habitat, indirect impacts related to habitat modification or loss, or direct impacts in the form of loss of individuals. These impacts would be considered significant if the subsequent population declines were large and/or affected the viability of the local Cascades frog and/or Sierra Nevada yellow-legged frog population.
- Northwestern Pond Turtle. The northwestern pond turtle is a California species of special concern, and is known to occur in Butte County. Construction-related activities in or near suitable aquatic habitat, including ponds, lakes, marshes, rivers, streams and irrigation ditches, or suitable nesting/overwintering habitat, such as riparian woodlands and grasslands, could result in mortality of northwestern pond turtles or destruction of their habitat. Declines in populations of northwestern pond turtles throughout the species range have been documented (Jennings and Hayes 1994). Loss of individuals within Butte County could diminish the local population and reduce reproductive potential, which could contribute to the further decline of this species. The

loss of upland nesting sites or eggs also could decrease the local population. These impacts would be considered significant.

- California Horned Lizard. The California horned lizard is a California species of special concern, and is known to occur in Butte County. Annual grasslands and woodland areas with sandy or gravely substrates and abundant ant colonies provide suitable habitat for this species. Construction activities in or near these habitats could result in permanent loss or temporary disturbance of habitat, indirect impacts related to habitat modification or loss, or direct impacts in the form of loss of individuals. These impacts would be considered significant if the subsequent population decline was large and/or affected the viability of the local horned lizard population.
- Giant Garter Snake. The giant garter snake is a federally and State-listed threatened species, and known to occur in Butte County. Agricultural wetlands and other waterways including irrigation and drainage canals, rice paddies, marshes, sloughs, ponds, small lakes, and low gradient streams, as well as adjacent upland areas, such as open grassy areas, provide suitable habitat for the giant garter snake. Construction activities in or near these habitats could result in permanent loss or temporary disturbance of aquatic and upland habitat, indirect impacts related to habitat modification or loss, or direct impacts in the form of loss of individuals. These impacts would be considered significant.
- Special Status Birds. Butte County is within the breeding range for numerous special-status bird species, including four State-listed threatened species (Swainson's hawk, California black rail, greater sandhill crane, and bank swallow), three State-listed endangered species (bald eagle, western yellow-billed cuckoo and American peregrine falcon), and 13 California species of special concern or fully protected species (white-tailed kite, northern harrier, northern goshawk, golden eagle, western burrowing owl, short-eared owl, California spotted owl, black swift, Vaux's swift, loggerhead shrike, yellow-breasted chat, tricolored blackbird, and yellow warbler). Additionally, non-special status migratory birds could nest in Butte County. Raptors, such as eagles, kites, hawks and owls, and other migratory birds and their nests are protected under both California Fish and Game Code Section 3503 (active bird nests) and the MBTA. Construction activities in or near habitat for special-status birds could result in nest disturbance or destruction, which could result in the incidental loss of fertile eggs or nestlings or otherwise lead to nest abandonment. Construction activities could also result in the loss of foraging habitat for several bird species, including Swainson's hawk. Loss of special-status and non-special status bird eggs or nests, or any activities resulting in nest abandonment, could constitute a significant impact.
- Special Status Bats. Butte County contains potential roosting and foraging habitat for special-status bats, including the western red bat, Townsend's big-eared bat, pallid bat, and western mastiff bat, as well as for several non-special-status bats. Potential impacts to bats could result from construction-related disturbance of bat roosts, destruction of active roosts, or the loss of individuals. These impacts would be considered significant if the subsequent population decline was large and/or affected the viability of the local populations of bats.
- Sierra Nevada Snowshoe Hare, Sierra Nevada Red Fox, Pacific Fisher, and California Wolverine. Higher elevations above 4,000 feet in Butte County may provide suitable habitat for several species that occur in mountain habitats, such as conifer and montane riparian. There are CNDDB records for Sierra Nevada red fox, which is listed by the State as threatened, and Pacific fisher, a

candidate for federal listing and a California species of special concern, in Butte County. There are no CNDDB records for Sierra Nevada snowshoe hare, a California species of special concern, and California wolverine, which is listed by the State as threatened and fully protected, in Butte County. Construction activities in or near suitable habitat for these four species could result in permanent loss or temporary disturbance of habitat, indirect impacts related to habitat modification or loss, or direct impacts in the form of loss or disturbance of individuals. These impacts would be considered significant.

- American Badger. The American badger is a California species of special concern and is known to occur within Butte County. Annual grassland, valley oak woodland with sparse trees, and wet meadows provide suitable habitat for American badgers. Construction activities in or near these habitats could result in permanent loss or temporary disturbance of habitat, indirect impacts related to habitat modification or loss, or direct impacts in the form of loss or disturbance of individuals. These impacts would be considered significant if the subsequent population decline was large and/or affected the viability of the local American badger population.

Fish

Development allowed by General Plan Update also has the potential to cause adverse impacts to special-status fish species. The Feather and Sacramento Rivers and associated tributaries in Butte County provide spawning, rearing and migratory habitat for special-status fish species, such as fall/late fall, winter and spring-run Chinook salmon, Central Valley steelhead, green sturgeon, and river lamprey. As discussed above, critical habitat for Chinook salmon and steelhead is designated in the Feather and Sacramento Rivers and tributaries to these rivers that occur in Butte County, such as Butte Creek and Big Chico Creek. Critical habitat is also designated for green sturgeon and includes the upper Sacramento River in Butte County and the Feather River to Oroville Dam (74 FR 52300 October 9, 2009). EFH is also designated for Chinook salmon in Butte County in the Sacramento River.

Impacts on fish from construction-related disturbances include increased sedimentation and turbidity, release of contaminants into surrounding waterbodies, noise disturbance, and change in fish habitat. A change in fish habitat could result from the removal of terrestrial vegetation from streambanks, removal of riparian trees and aquatic vegetation, or rip-rapping [2] banks for erosion control. Increases in sedimentation and turbidity have been shown to affect fish physiology, behavior, and habitat. Stress responses are generally higher with increasing turbidity and decreasing particle size. Migrating adult salmonids have been reported to avoid high waterways with silt loads or cease migration when such loads are unavoidable (Cordon and Kelley 1961).

Construction activities may also involve the storage, use or discharge of toxic and other harmful substances near water bodies or in areas that drain to these water bodies. Heavy construction equipment often use petroleum products, such as fuels, lubricants, hydraulic fluids and coolants, all of which may be

[2] Rip-rap banks are composed of rock or other materials that resist erosion by dissipating the energy of flowing water or waves.

toxic to fish and other aquatic organisms. An accidental spill or inadvertent discharge of these materials could affect the water quality of the river or water body and thereby affect fish or fish habitat.

Impact Significance Determination

The Butte County General Plan Update includes goals, policies, and actions that would mitigate potential impacts on special-status species. Conservation and Open Space Element Goal 9 and its supporting policies and actions seek to protect identified special-status species. In particular, Policy COS-P9.1 requires the preparation of a biological resources assessment for any proposed project where special-status species or critical habitat may be present, and Policy COS-P9.2 requires that if such species or habitat are found, the project proponent must consult with the appropriate resource agencies and mitigate project impacts. Both policies require that assessment or mitigation requirements of the HCP/NCCP be implemented for development projects within the HCP/NCCP area, upon adoption of the HCP/NCCP. In addition, Action COS-A6.1 directs the County to continue to work with BCAG and the five municipalities to develop and implement the Butte Regional HCP/NCCP, and subsequently update it as necessary. Since the Butte Regional HCP/NCCP covers a number of special-status species, implementation and periodic updates to this planning document will help to mitigate impacts on special-status species. There are also a number of General Plan Update policies and actions that would preserve and enhance areas that may provide habitat for special-status species, including the following:

- Action COS-A6.1 directs the County to continue to work with BCAG and the five municipalities to develop and implement the Butte Regional HCP/NCCP, and subsequently update it as necessary.
- Policy COS-P7.4 requires that new development mitigate its impacts in habitat areas for protected species through on- or off-site habitat restoration, clustering of development, and/or project design, and through the provisions of the Butte Regional HCP/NCCP within the HCP/NCCP Planning Area.
- Policy COS-P7.5 prohibits development in wetlands or within significant riparian habitats, except within the Butte Regional HCP/NCCP Planning Area where such development is consistent with the conditions of the HCP/NCCP.
- Policy COS-P7.6 requires that new development include setbacks and buffers along riparian corridors and adjacent to habitat for protected species except where permitted in the Butte Regional HCP/NCCP Planning Area and where such development is consistent with the conditions of the HCP/NCCP.
- Policy COS-P7.7 requires the installation of construction barrier fencing around sensitive resources on or adjacent to construction sites.
- Policy COS-P7.8 requires that construction employees operating equipment or engaged in any development-associated activities involving vegetation removal or ground disturbing activities in sensitive resource areas be trained by a qualified biologist and/or botanist who will provide information on the on-site biological resources (sensitive natural communities, special-status plant and wildlife habitats, nests of special-status birds, etc.), avoidance of invasive plant introduction and spread, and the penalties for not complying with biological mitigation requirements and other State and federal regulations.

- Policy COS-P7.9 requires that a biologist be retained to conduct construction monitoring in and adjacent to all habitats for protected species when construction is taking place near such habitat areas.
- Action COS-A7.1 directs the County to develop a set of guidelines for evaluating project impacts to habitat in locations outside of the approved HCP/NCCP Planning Area, as well as for requiring specific mitigations for impacts that are identified.
- Action COS-A7.2 directs the County to establish a mitigation bank program for impacts to habitats for protected species, such as oak woodlands, riparian woodlands, and wetlands, in locations outside of the approved HCP/NCCP Planning Area, using mitigation fees on new development as a funding mechanisms.
- Policy W-P1.4 protects riparian and fish habitat by requiring that new development where appropriate minimize impervious area, minimize runoff and pollution, and incorporate best management practices.
- Policy W-P6.3 protects riparian and fish habitat by requiring that temporary facilities be installed during construction activities in order to adequately treat stormwater runoff from construction sites.
- Policy W-P7.1 requires that any alteration of natural channels for flood control retain and protect riparian vegetation to the extent possible while still accomplishing the goal of providing flood control.

Environmental protections that may be implemented on a project-by-project basis to address specific wildlife species are provided in Appendix C. The goals, policies, and actions proposed in the Conservation and Open Space and Water Elements of General Plan 2040; the additional environmental protections in Appendix C; compliance with the policies and regulations under the ESA, MBTA, CESA, California Fish and Game Code, CWA, and CNPPA; and consistency with the Butte Regional HCP/NCCP as required by Action COS-A6.1 would reduce potential impacts to special-status species associated with new development allowed under General Plan 2040 to a less than significant level.

Level of Significance Before Mitigation: BIO-1 would be less than significant.

Mitigation Measures

No mitigation measures are required.

Upper Ridge Community Plan

As discussed in Chapter 3, *Project Description,* the URCP would increase development potential in the Upper Ridge community with 28 parcels redesignated from Retail and Office to Mixed-use land uses in the Old Magalia and Magalia Center neighborhoods. Potential future development under the proposed project would add additional residents to the Upper Ridge community.

Development allowed by the URCP could potentially impact special-status species. However, future development would be subject to the following Conservation Element Policies of the General Plan Update,

which would protect special-status species from the proposed project. Specifically, Policy COS-P9.1 requires a biological resources assessment for any proposed development project where special-status species or critical habitat may be present. And Policy COS-P9.2 requires the project applicant to engage in consultation with appropriate regulation in the event that a special-status plant or animal is found within a development site, and sets requirements for developments project within Butte Regional HCP/NCCP areas.

The proposed General Plan Update includes goals and policies would ensure that potential impacts to protected species would be less than significant.

Level of Significance Before Mitigation: BIO-1 would be less than significant.

Mitigation Measures

No mitigation measures are required.

BIO-2	The proposed project would not have a substantial adverse effect on any riparian habitat, but it could have a substantial adverse effect on other sensitive natural communities identified in local or regional plans, policies, or regulations or by the California Department of Fish and Wildlife or United States Fish and Wildlife Service.

General Plan 2040

Butte County contains sensitive natural communities, including riparian woodland, oak woodland, streams and wetlands. Riparian vegetation is an important component for special-status fish species habitat and provides shaded riverine aquatic habitat. Shaded riverine aquatic cover directly influences the quality of fish habitat, affecting cover, food, in-stream habitat complexity, streambank stability, and temperature regulation. Large woody debris usually originates from riparian trees and provides habitat complexity in aquatic environments, an essential component of fish habitat.

Construction activities could have potential direct and indirect impacts on sensitive natural communities. Construction projects in the county would also have the potential to affect sensitive natural communities by spreading or introducing invasive plant species to currently uninfected areas. Invasive species spread aggressively and crowd out native species, potentially altering the species composition of natural communities. A predominance of invasive species reduces the overall habitat quality for native plants and wildlife.

However, the Conservation and Open Space Element of General Plan Update includes a number of goals, policies, and actions that would mitigate potential impacts on sensitive natural communities. Goal 7 and its associated policies and actions seek to preserve and enhance areas of significant habitat and sensitive biological communities, including oak woodlands, riparian woodlands, creeks, and wetlands. Many of these policies and actions were highlighted in the discussion about habitat for special-status species. In addition to those policies and actions, Policy COS-P7.3 also requires that creeks be maintained in their natural state whenever possible.

In addition, Conservation and Open Space Element Goal COS-8 seeks to maintain and promote native vegetation through a number of policies, including Policy COS-P8.4, which avoids introduction or spread of invasive plant species during construction by minimizing surface disturbance, seeding and mulching disturbed areas with certified weed-free native mixes, and using native, noninvasive species in erosion control plantings.

Additionally, disturbance or alteration of streams, lakes, or non-federally protected (non-jurisdictional) wetlands would require a permit, which would include conditions to protect these sensitive natural communities. A Section 1602 streambed alteration agreement would be needed from the CDFW prior to initiation of project construction activities within the county that would divert, obstruct, or change the natural flow of a river, stream or lake, or that would use material from a streambed. Non-jurisdictional wetlands include wetland features that are not hydrologically connected to navigable waters in rivers and are not under USACE jurisdiction. These wetlands would still be considered waters of the State and would be regulated according to waste discharge requirements that would be issued by the RWQCB.

Implementation of the General Plan Update goals, policies and actions, with conditions associated with streambed alteration agreements and waste discharge requirements, would reduce potential impacts on riparian corridors and other sensitive natural communities to a less than significant level.

Level of Significance Before Mitigation: BIO-2 would be less than significant.

Mitigation Measures

No mitigation measures are required.

Upper Ridge Community Plan

As discussed in Chapter 3, *Project Description,* the URCP would increase development potential in the Upper Ridge community with 28 parcels redesignated from Retail and Office to Mixed-use land uses in the Old Magalia and Magalia Center neighborhoods. Potential future development under the proposed project would add additional residents to the Upper Ridge community.

The URCP area includes rivers, streams, and water bodies, which are areas that could potentially support riparian resources. Therefore, there is a potential for future development to impact riparian habitat or other sensitive natural communities. However, potential development would be subject to the following Conservation Element Policies of the General Plan Update, which would protect riparian resources from the proposed project. Specifically, Policy COS-P7.5 does not allow new development in wetlands or within significant riparian habitats, unless development is consistent with the conditions of the Butte Regional HCP/NCCP. Policy COS-P7.6 requires new development projects to include setbacks and buffers along riparian corridors and adjacent to habitat for protected species, unless development is consistent with the conditions of the Butte Regional HCP/NCCP.

In addition, Section 24-46, Watershed Protection Overlay Zone, in the Butte County Municipal Code would further protect sensitive natural communities in the Paradise and Magalia Reservoirs watershed, which

are both located within the URCP. Discretionary development in this overlay zone must demonstrate that land uses will not result in any adverse impacts on the water quality of the watershed.

The proposed General Plan Update goals and policies as well as local regulations would ensure that potential impacts to protected species would be less than significant.

Level of Significance Before Mitigation: BIO-2 would be less than significant.

Mitigation Measures

No mitigation measures are required.

BIO-3	The proposed project would not have a substantial adverse effect on state or federally protected wetlands (marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means.

General Plan 2040

Butte County contains waters of the United States, which include jurisdictional wetlands and other waters. Construction activities could potentially have direct and indirect impacts on waters of the United States.

General Plan Update includes a number of goals, policies, and actions that protect sensitive natural communities such as wetlands. In particular, Policy COS-P7.5 prohibits development in wetlands, except within the Butte Regional HCP/NCCP Planning Area where such development is consistent with the conditions of the HCP/NCCP.

In addition, in accordance with the federal Clean Water Act, a formal delineation of waters of the United States would need to be conducted prior to the initiation of construction activities in the county where potentially jurisdictional features are present. The results of the delineation, including a report and map, would be submitted to the Sacramento District of the USACE for verification. If the USACE determines that no waters of the United States are present, a Clean Water Act Section 404 permit would not be required, although waste discharge requirements from the RWQCB might be required. If the USACE determines that waters of the United States are present, a Section 404 permit from the USACE for placement of fill within waters of the United States and a Section 401 water quality certification from the RWQCB would be required. Placement of fill materials into waters of the United States would require compensation to ensure no net loss of aquatic resources. Required compensation for the loss of degraded habitat could be less than that for undisturbed habitat, but compensation ratios would ultimately be determined by the resource agencies and be stated in the permit conditions.

Implementation of General Plan Update goals, policies, and actions; conditions associated with Section 404 permits and Section 401 water quality certifications; and additional mitigation protection of wetlands during construction activities would reduce potential impacts on federally protected wetlands to a less than significant level.

Level of Significance Before Mitigation: BIO-3 would be less than significant.

Mitigation Measures

No mitigation measures are required.

Upper Ridge Community Plan

As discussed in Chapter 3, *Project Description,* the URCP would increase development potential in the Upper Ridge community with 28 parcels redesignated from Retail and Office to Mixed-use land uses in the Old Magalia and Magalia Center neighborhoods. Potential future development under the proposed project would add additional residents to the Upper Ridge community.

The Upper Ridge community area contains waters of the United States, which include jurisdictional wetlands and other waters. Construction activities could potentially have direct and indirect impacts on waters of the United States. Development of the URCP would be subject to the following element policies of the General Plan Update. Policy COS-P7.5 prohibits development in wetlands, except within the Butte Regional HCP/NCCP Planning Area where such development is consistent with the conditions of the HCP/NCCP. In addition, future development will also need to comply with the conditions associated with Section 404 permits and Section 401 water quality certifications.

The proposed General Plan Update goals and federal regulations would ensure that potential impacts to wetlands and other waters would be less than significant.

Level of Significance Before Mitigation: BIO-3 would be less than significant.

Mitigation Measures

No mitigation measures are required.

BIO-4	The proposed project would not interfere with the movement of a 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.

General Plan 2040

Butte County contains essential movement corridors for native resident and migratory fish and wildlife species, and development allowed by General Plan Update could potentially have adverse impacts on such species. In particular, Butte County's resident and migratory deer herds may be adversely impacted by such development.

A migratory deer herd study was conducted as part of the General Plan Update process to update the map of the winter and critical winter migratory deer herd ranges for Butte County. As part of this EIR analysis, impacts to migratory deer habitats were identified by comparing the location of development allowed by the General Plan Update to the deer herd maps. Development within the county could occur

within some of the winter and critical winter ranges and could impede movement of migratory deer herds.

The General Plan Update includes a Winter Deer Herd Migration Area Overlay, which requires a 20-acre minimum lot size, and a Critical Winter Deer Herd Migration Area Overlay, which requires a 40-acre minimum lot size. These requirements are consistent with management plans created by CDFW for the various deer herds in the county. Development may be clustered at smaller lot sizes than these minimums in order to protect the deer herd areas, provided that the nondevelopment areas are protected under permanent conservation easements. In addition, Land Use Policy LU-P1.10 states that the County shall limit development in foothill and mountain areas that are constrained by fire hazards, water supply, migratory deer habitat, or infrastructure.

Several policies and actions of the Conservation and Open Space Element of General Plan Update would also help protect deer and other animal migration, including protecting habitat corridors (COS-P7.1) and maintaining buffers along riparian corridors (COS-P7.6). Policy COS-P7.2 would protect migrating deer herds and other migrating animals by allowing and encouraging clustered development, with remaining areas being conserved under permanent conservation easements. As trustee agency for the deer herd, CDFW will comment on future development projects relative to the ongoing health of the migratory deer herd. In addition, Action COS-A10.1 directs coordination with CDFW to monitor effects of development on migratory deer herds. Policies of General Plan 2040, with other federal and State policies and regulations, would reduce potential impacts to deer and other migratory species to a less than significant level.

Level of Significance Before Mitigation: BIO-4 would be less than significant.

Mitigation Measures

No mitigation measures are required.

Upper Ridge Community Plan

As discussed in Chapter 3, *Project Description,* the URCP would increase development potential in the Upper Ridge community with 28 parcels redesignated from Retail and Office to Mixed-use land uses in the Old Magalia and Magalia Center neighborhoods. Potential future development under the proposed project would add additional residents to the Upper Ridge community.

A migratory deer herd study was conducted as part of the General Plan Update process. According to the migratory deer herd study, potential development in the URCP is unlikely to impact migratory deer (Attachment F). The community plan area is not within a Winter Deer Herd Migration Area Overlay or a Critical Winter Deer Herd Migration Area Overlay. However, as mentioned Butte County contains essential movement corridors for various native resident and migratory fish and wildlife species; therefore, future development would still need to comply with following Conservation and Open Space Element of General Plan to protect migratory species. Policy COS-P7.6 states that new development projects shall include setbacks and buffers along riparian corridors and adjacent to habitat for protected species. Policy COS-P19.3 requires utility companies to choose the least conspicuous location for distribution lines to avoid impacts to scenic corridors. And Policy COS-P9.2 requires the project applicant to engage in consultation

with appropriate regulation in the event that a special-status plant or animal is found within a development site and sets requirements for developments project within Butte Regional HCP/NCCP areas.

The proposed General Plan Update goals would ensure that potential impacts to wetlands and other waters would be less than significant.

Level of Significance Before Mitigation: BIO-4 would be less than significant.

Mitigation Measures

No mitigation measures are required.

BIO-5	The proposed project would not conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.

General Plan 2040

General Plan Update would not conflict with any local policies or ordinances protecting biological resources. The biological resource requirements in the Oak Woodlands Management Plan would remain intact following implementation of the proposed project. Furthermore, General Plan Update includes Policy COS-P6.1, which directs the County to coordinate with applicable federal, State, regional, and local agencies on natural resources and habitat planning. Thus, the project would have no impact regarding conflicts with local ordinances or policies protecting biological resources.

The project's consistency with the Butte Regional HCP/NCCP is discussed separately in BIO-6.

Level of Significance Before Mitigation: BIO-5 would have no impact.

Mitigation Measures

No mitigation measures are required.

Upper Ridge Community Plan

As discussed in Chapter 3, *Project Description,* the URCP would increase development potential in the Upper Ridge community with 28 parcels redesignated from Retail and Office to Mixed-use land uses in the Old Magalia and Magalia Center neighborhoods. Potential future development under the proposed project would add additional residents to the Upper Ridge community.

The biological resource requirements in the Oak Woodlands Management Plan would remain intact following implementation of the proposed project. Furthermore, the General Plan Update includes Policy COS-P6.1, which directs the County to coordinate with applicable federal, State, regional, and local agencies on natural resources and habitat planning. Thus, the project would have no impact regarding conflicts with local ordinances or policies protecting biological resources.

The project's consistency with the Butte Regional HCP/NCCP is discussed separately in BIO-6.

Level of Significance Before Mitigation: BIO-5 would have no impact.

Mitigation Measures

No mitigation measures are required.

BIO-6	The proposed project 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.

General Plan 2040

Butte Regional HCP/NCCP allows projects that qualify as "covered activities" to obtain federal and State incidental take authorization for listed species. As part of receiving take authorization, HCP participants can expedite their mitigation and compensation requirements through the Butte Regional HCP/NCCP, which would be consistent with federal and State recommendations and requirements.

The General Plan Update was developed with input and collaboration from the Butte Regional HCP/NCCP process. The General Plan Update includes policies in the Conservation and Open Space Element regarding requirements for future developments project within Butte Regional HCP/NCCP areas:

- COS-P7.4: New development projects shall mitigate their impacts in habitat areas for protected species through on- or off-site habitat restoration, and/or project design and through the provisions of the Butte Regional Habitat Conservation Plan (HCP) and Natural Community Conservation Plan (NCCP) within the HCP/NCCP Planning Area, upon the future adoption of the HCP/NCCP.
- COS-P7.5: No new development projects shall occur in wetlands or within significant riparian habitats, except within the Butte Regional Habitat Conservation Plan (HCP) and Natural Community Conservation Plan (NCCP) Planning Area where such development is consistent with the conditions of the HCP/NCCP, upon the future adoption of the HCP/NCCP.
- COS-P7.6: New development projects shall include setbacks and buffers along riparian corridors and adjacent to habitat for protected species, except where permitted in the Butte Regional Habitat Conservation Plan (HCP) and Natural Community Conservation Plan (NCCP) Planning Area and where such development is consistent with the conditions of the HCP/NCCP, upon the future adoption of the HCP/NCCP.
- COS-P9.1: A biological resources assessment shall be required for any proposed development project where special-status species or critical habitat may be present. Assessments shall be carried out under the direction of Butte County. Additional focused surveys shall be conducted during the appropriate season if necessary. Upon adoption of the Butte Regional Habitat Conservation Plan (HCP) and Natural Community Conservation Plan (NCCP), assessment

requirements of the HCP/NCCP shall be implemented for development projects within the HCP/NCCP area.

- COS-P9.2: "If special-status plant or animal species are found to be located within a development site, proponents of the project shall engage in consultation with the appropriate federal, State, and regional agencies and mitigate project impacts in accordance with State and federal law. Upon adoption of the Butte Regional Habitat Conservation Plan (HCP) and Natural Community Conservation Plan (NCCP), mitigation requirements of the HCP/NCCP shall be implemented for development projects within the HCP/NCCP area. Examples of mitigation may include:
  a. Design the proposed project to avoid and minimize impacts.
  b. Restrict construction to specific seasons based on project-specific special-status species issues (e.g., minimizing impacts to special-status nesting birds by constructing outside of the nesting season).
  c. Confine construction disturbance to the minimum area necessary to complete the work.
  d. Mitigate for the loss of special-status species by purchasing credits at an approved conservation bank (if a bank exists for the species in question), funding restoration or habitat improvement projects at existing preserves in Butte County or purchasing or donating mitigation lands of substantially similar habitat.
  e. Maintain a minimum 100-foot buffer on each side of all riparian corridors, creeks and streams for special-status and common wildlife.
  f. Establish setbacks from the outer edge of special-status species habitat areas.
  g. Construct barriers to prevent compaction damage by foot or vehicular traffic.

Therefore, future development under the proposed project would be required to comply with applicable policies and plans governing biological resources in the County, and impacts would be less than significant.

Level of Significance Before Mitigation: BIO-6 would be less than significant.

Mitigation Measures

No mitigation measures are required.

Upper Ridge Community Plan

As discussed in Chapter 3, *Project Description,* the URCP would increase development potential in the Upper Ridge community with 28 parcels redesignated from Retail and Office to Mixed-use land uses in the Old Magalia and Magalia Center neighborhoods. Potential future development under the proposed project would add additional residents to the Upper Ridge community.

The General Plan Update includes policies in the Conservation and Open Space Element regarding requirements for developments project within Butte Regional HCP/NCCP areas. Therefore, future

development under the proposed project would be required to comply with applicable policies and plans governing biological resources in the County, and impacts would be less than significant.

Level of Significance Before Mitigation: BIO-6 would be less than significant.

Mitigation Measures

No mitigation measures are required.

5.4.5 CUMULATIVE IMPACTS

BIO-7	The proposed project, in combination with past, present, and reasonably foreseeable projects, would result in significant and unavoidable cumulative impacts with respect to biological resources.

As discussed above, General Plan Update contains extensive goals, policies, and actions that mitigate impacts to undeveloped lands that support sensitive biological resources, including special-status species, sensitive natural communities, federally protected wetlands, and wildlife and fish movement corridors, to a less than significant level and that additionally minimize the effects of development on biological resources in general. Development allowed by General Plan Update would contribute to the ongoing loss of undeveloped lands that support such sensitive biological resources in Butte County. The cumulative loss of habitat and sensitive natural communities in Butte County could potentially contribute to a general decline for the region, and might result in the loss or displacement of wildlife that would have to compete for suitable habitats with existing adjacent populations. Since this potential change would occur as an intrinsic part of the land use changes allowed under the General Plan Update to accommodate the expected continued growth of population and economic activity in Butte County over the next 20 years, and since development outside Butte County is beyond the County's ability to regulate or control, the cumulative change may rise to a level of significance and is being treated as a significant and unavoidable impact.

Level of Significance Before Mitigation: BIO-7 would be potentially significant.

Mitigation Measures

There are no feasible mitigation measures.

Level of Significance After Mitigation: BIO-7 would be significant and unavoidable.

Upper Ridge Community Plan

The proposed development is aimed to redesignate developed parcels to support additional residential units. Potential development under the URCP could indirectly impact biological resources. However, the General Plan Update include policies aimed to reduce impacts to biological resources in Butte County, including the Upper Ridge area. The General Plan Update policies along with applicable State and local

regulations would minimize potential impact to biological resources from future development. Therefore, the cumulative biological resource impacts associated with the URCP would be less than significant.

Level of Significance Before Mitigation: BIO-7 would be less than significant.

Mitigation Measures

No mitigation measures are required.

5.4.6 REFERENCES

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5.5 CULTURAL RESOURCES AND TRIBAL CULTURAL RESOURCES

This chapter describes the regulatory framework and existing conditions on the project site related to cultural resources and tribal cultural resources, and the potential impacts of the project on cultural resources and tribal cultural resources.

5.5.1 ENVIRONMENTAL SETTING

5.5.1.1 REGULATORY FRAMEWORK

This section summarizes key federal and State regulations and policies that apply to historical, archaeological, and paleontological resources and human remains.

Federal Regulations

National Historic Preservation Act

The National Historic Preservation Act of 1966 (NHPA) is the most influential federal law dealing with historic preservation. Under the NHPA, Congress has enacted numerous statutes that affect historic properties. One of the most important provisions of the NHPA is the establishment of the National Register of Historic Places (NRHP), the official designation of historical resources. Districts, sites, buildings, structures and objects are eligible for listing in the Register. The NRHP is administered by the National Park Service. To be eligible for the NRHP, a property must be significant under criterion A (history), B (persons), or C (design/construction); possess integrity; and ordinarily be 50 years of age or more.

Listing in the NRHP does not entail specific protection or assistance for a property, but it does guarantee recognition in planning for federal or federally assisted projects (see Section 106), eligibility for federal tax benefits, and qualification for federal historic preservation assistance.[1] The NRHP is influential beyond its statutory role because it achieves uniform standards of documentation and evaluation. Additionally, project effects on properties listed in the NRHP must be evaluated under CEQA.[2]

Federal Historic Significance Criteria

For federal projects, cultural resource significance is evaluated in terms of eligibility for listing in the NRHP. Structures, sites, buildings, districts, and objects over 50 years of age can be listed in the NRHP as significant Historic Properties. However, properties under 50 years of age that are of exceptional importance or are contributors to a historic district can also be included in the NRHP. The NRHP is administered by the National Park Service and includes listings of buildings, structures, sites, objects, and districts that possess historic, architectural, engineering, archaeological, or traditional cultural significance at the national, state, or local level.

[1] The National Parks Service, National Historic Preservation Act, https://www.nps.gov/subjects/historicpreservationfund/national-historic-preservation-act.htm, accessed on October 14, 2021.

[2] 2009 CEQA Guidelines. 15064.5(c), page 126.

Criteria for listing in the NRHP are outlined in 36 CFR 60.4 and are rooted in the notion that the quality of significance in American history, architecture, archaeology, and culture is present in districts, sites, buildings, structures, and objects of state and local importance that possess integrity of location, design, setting, materials, workmanship, feeling, and association, and that:

1. Are associated with events that have contributed to the broad pattern of our history;
2. Are associated with the lives of people significant in our past;
3. Embody the distinct characteristics of a type, period, or method of construction, or represent the work of a master, or possess high artistic values, or represent a significant and distinguishable entity whose components may lack individual distinction; or
4. Have yielded, or are likely to yield, information important in prehistory or history. (36 CFR 60.4)

Through amendments to the NRHP in 1992 and their implementing regulations, federal responsibilities for consultations with interested parties, and especially with Indigenous tribes, during the Section 106 process were expanded. The result has been a more focused effort by federal agencies to involve interested parties in identifying Historic Properties of cultural significance and, if warranted, in considering effects that may result from a federal undertaking.

Traditional Cultural Properties (TCP) are often identified as resources during these consultation efforts. TCPs are tangible cultural properties that have historical and ongoing significance to living communities, as evidenced in their traditional cultural practices, values, beliefs, and identity. A TCP must still meet one of the four criteria outlined in 36 CFR Part 60.4, described previously, and must retain integrity. A TCP is simply a different way of grouping or looking at historic resources, emphasizing a place's value and significance to a living community.

As such, the NRHP guidelines describe the types of cultural significance for which properties may be eligible for inclusion in the NRHP. A property with traditional cultural significance will be found eligible for the NRHP because it is associated with cultural practices or beliefs of a living community that:

a) Are rooted in that community's history, and
b) Are important in maintaining the continuity of the cultural identity of the community.

This type of significance is grounded in the cultural patterns of thought and behavior of a living community and refers specifically to the association between their cultural traditions and a historic property.

State Regulations

California Environmental Quality Act

The state CEQA Guidelines requires that if a project would result in significant impacts on cultural resources that are important or significant, alternative plans or measures must be considered to lessen or mitigate such impacts. Prior to the development of mitigation measures, the importance of cultural resources must be determined.

Archaeological Resources

Public Resources Code (PRC) Section 21083.2 (CEQA Statute) and California Code of Regulations (CCR) Section 15126.4 (CEQA Guidelines) specify lead agency responsibilities to determine whether a project may have a significant effect on archaeological resources.

CEQA Section 21083.2 sets out detailed requirements for projects for which it can be demonstrated will damage a unique archaeological resource. For such projects, the lead agency may require reasonable efforts for the resources to be preserved in place or left in an undisturbed state. Preservation in place is the preferred approach to mitigation. CEQA Section 21083.2 also details required mitigation if unique archaeological resources are not preserved in place.

CEQA Guidelines Section 15064.5 also specifies procedures to be used in the event of an unexpected discovery of Native American human remains on nonfederal land. These procedures include the following provisions: (1) protect such remains from disturbance, vandalism and inadvertent destruction; (2) establish procedures to be implemented if Native American skeletal remains are discovered during construction of a project; and (3) establish the Native American Heritage Commission (NAHC) as the authority to resolve disputes regarding disposition of such remains.

Historic Resources

CEQA Guidelines Section 15064.5 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 impact on the environment. CEQA Guidelines Section 15064.5(a) states that, for purposes of CEQA, the term "historical resources" shall include the following:

- A resource listed in or determined to be eligible by the State Historical Resources Commission, for listing in the California Register (PRC Section 5024.1; Title 14 CCR, Section 4850 et seq.).
- A resource included in a local register of historical resources, as defined in PRC Section 5020.1(k) or identified as significant in an historical resource survey meeting the requirements PRC Section 5024.1(g), shall be presumed to be historically or culturally significant. Public agencies must treat any such resource as significant unless the preponderance of evidence demonstrates that it is not historically or culturally significant.
- Any object, building, structure, site, area, place, record, or manuscript which a lead agency determines to be historically significant or significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California may be considered to be an historical resource, provided the lead agency's determination is supported by substantial evidence in light of the whole record. Generally, a resource shall be considered by the lead agency to be "historically significant" if the resource meets the criteria for listing on the California Register (PRC Section 5024.1, Title 14 CCR, Section 4852) including the following:
    - Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage;
    - Is associated with the lives of persons important in our past;

- Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values; or
- Has yielded, or may be likely to yield, information important in prehistory or history.

The fact that a resource is not listed in or determined to be eligible for listing in the California Register, not included in a local register of historical resources (pursuant to PRC Section 5020.1(k)), or identified in an historical resources survey (meeting the criteria in PRC Section 5024.1(g)) does not preclude a lead agency from determining that the resource may be an historical resource as defined in PRC Sections 5020.1(j) or 5024.1.

For historic resources, CEQA Guidelines Section 15064.5(b)(3) indicates that a project that follows the Secretary of the Interior's Standards for the Treatment of Historic Properties with Guidelines for Preserving, Rehabilitating, Restoring, and Reconstructing Historic Buildings, or the Secretary of the Interior's Standards for Rehabilitation and Guidelines for Rehabilitating Historic Buildings (1995), shall be considered as mitigated to a less than significant level on the historic resource.

California Register of Historic Resources

The California Register of Historical Resources (CRHR) is restricted to properties that are to be protected from substantial adverse change (Public Resources Code Section 5024.1). A historical resource may be listed in the CRHR if it meets any of the following criteria:

- It is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage.
- It is associated with the lives of persons important in California's past.
- It embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic value.
- It has yielded or is likely to yield information important in prehistory or history.

The CRHR includes properties that are listed or have been formally determined to be eligible for listing in the NRHP, State Historical Landmarks and eligible Points of Historical Interest. Other resources require nomination for inclusion in the Register. These may include resources contributing to the significance of a local historic district, individual historical resources, historical resources identified in historic resource surveys conducted in accordance with State Historic Preservation Office (SHPO) procedures, historic resources or districts designated under a local ordinance consistent with State Historic Resources Commission procedures, and local landmarks or historic properties designated under local ordinance.[3]

[3] California Office of Historic Preservation, California Register of Historical Resources, https://ohp.parks.ca.gov/?page_id=21238, accessed on October 14, 2021.

California Native American Historical, Cultural and Sacred Sites Act

The California Native American Historical, Cultural and Sacred Sites Act applies to both State and private lands. This Act requires that upon discovery of human remains, construction or excavation activity cease and the county coroner be notified. If the remains are of a Native American, the coroner must notify the NAHC. The NAHC then notifies the persons most likely to be descended from the Native American remains. This Act stipulates the procedures that descendants may follow for treating or disposing of the remains and associated grave goods.

California Public Resources Code

PRC Section 5097 specifies the procedures to be followed in the event of the unexpected discovery of human remains on nonfederal land. The disposition of Native American burial falls within the jurisdiction of the NAHC. Section 5097.5 of the PRC 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.

As used in this section, "public lands" means lands owned by, or under the jurisdiction of, the State or any city, county, district, authority or public corporation, or any agency thereof. Consequently, Butte County is required to comply with Public Resource Code Section 5097.5 for its activities on publicly owned land.[4]

California State Health and Safety Code

Section 7052 of the California State Health and Safety Code states that the disturbance of Native American cemeteries is a felony. Section 7050.5 requires that construction or excavation be stopped in the vicinity of discovered human remains until the coroner determines whether the remains are those of a Native American. If determined to be Native American, the coroner must contact the NAHC.[5]

California Code of Regulations

Archaeological resources on lands administered by the California Department of Parks and Recreation are addressed in Title 14, Division 3, Chapter 1 of the CCR. Section 4308 of this chapter addresses archaeological features and states that no person shall remove, injure, disfigure, deface, or destroy any object of archaeological or historical interest or value.

[4] California Public Resources Code, Division 5, Parks and Monuments, Chapter 1.7, Archaeological, Paleontological, and Historical Sites, Section 5097.5

[5] California State Health and Safety Code, Division 7, Dead Bodies, Part 1, General Provisions, Chapter 2, General Provisions, Section 7050.5

California Historical Building Code

The California Historical Building Code (24 CCR Part 8) provides regulations for permitting repairs, alterations, and additions for the preservation, rehabilitation, relocation, reconstruction, change of use, or continued use of historical buildings, structures, and properties determined by any level of government as qualifying as an historical resource. A historical resource is defined in Sections 18950 to 18961 of Division 13, Part 2.7 of the Health and Safety Code and subject to rules and regulations in 24 CCR Part 8.

California Government Code

California Government Code Section 65352.3-5, formerly known as Senate Bill (SB) 18, states that prior to the adoption or amendment of a city or county's general plan, or specific plans, the city or county shall consult with California Native American tribes that are on the contact list maintained by the NAHC. The intent of this legislation is to preserve or mitigate impacts on places, features and objects, as defined in PRC 5097.9 and PRC 5097.993, that are located within the city or county's jurisdiction. The bill also states that the city or county shall protect the confidentiality of information concerning the specific identity, location, character and use of those places, features and objects identified by Native American consultation. Government Code 65362.3-5 applies to all general and specific plans and amendments proposed after March 1, 2005.

Assembly Bill 52

Effective July 1, 2015, Assembly Bill 52 (AB 52) amended CEQA to require that: (1) a lead agency provide notice to California Native American tribes that requested notice of projects proposed by the lead agency; and (2) the lead agency consult with any tribe that responded to the project notice within 30 days of receipt with a request for consultation. Topics that may be addressed during consultation include Tribal Cultural Resources, the potential significance of project impacts, the type of environmental document that should be prepared, and possible mitigation measures and project alternatives.

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 the Statutes of 2004." This includes both federally recognized and unrecognized tribes.

Section 21074(a) of the PRC defines Tribal Cultural Resources for the purpose of CEQA as:

> Sites, features, places, cultural landscapes (geographically defined in terms of the size and scope), sacred places, and objects with cultural value to a California Native American tribe that are any of the following:
>
> a. Included or determined to be eligible for inclusion in the CRHR; and/or
>
> b. Included in a local register of historical resources as defined in subdivision (k) of Section 5020.1; and/or
>
> c. A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Section 5024.1. In applying the criteria set forth in subdivision (c) of Section 5024.1 for the purposes of this paragraph, the lead agency shall consider the significance of the resource to a California Native American tribe.

Because criteria a and b also meet the definition of a Historical Resource under CEQA, a Tribal Cultural Resource may also require additional consideration as a Historical Resource. Tribal Cultural Resources may or may not exhibit archaeological, cultural, or physical indicators.

Recognizing that California tribes are experts in their tribal cultural resources and heritage, AB 52 requires that CEQA lead agencies provide tribes that request notification an opportunity to consult at the commencement of the CEQA process to identify Tribal Cultural Resources. Furthermore, because a significant effect on a Tribal Cultural Resource is considered a significant impact on the environment under CEQA, consultation is used to develop appropriate avoidance, impact minimization, and mitigation measures.

Assembly Bill 168

AB 168 was signed in 2020 and extends the responsibility of a development proponent to consult with Native American tribes to streamlined ministerial approvals for affordable multifamily housing developments under SB 35. A development with streamlined ministerial approval under SB 35 is not subject to CEQA, allowing for such developments to occur without going through a CEQA review or screening process to determine if they would affect Tribal Cultural Resources.

AB 168 requires a development proponent to submit notice of its intent to apply for streamlined approval to the local government prior to the actual application submittal. The local government is then required to provide formal notice to each California Native American tribe that is culturally affiliated with the geographic area of the proposed development and to engage in a "scoping consultation" regarding the potential effects the proposed development could have on a potential Tribal Cultural Resource (California Code Section 65913.4(b)).

The scoping consultation must commence within 30 days after the proponent submits a notice of intent to apply for ministerial approval and must conclude before the proponent can submit the application.

This bill deems a project ineligible for the streamlined, ministerial approval process and requires it be subject to CEQA if:

> (A) The site of the proposed development is a Tribal Cultural Resource that is on a national, State, tribal, or local historic register list;
>
> (B) The local government and the California Native American tribe do not agree that no potential Tribal Cultural Resource would be affected by the proposed development; or
>
> (C) The local government and California Native American tribe find that a potential Tribal Cultural Resource could be affected by the proposed development and the parties do not document an enforceable agreement regarding the methods, measures, and conditions for treatment of those tribal cultural resources, as provided.

Local Regulations

Butte County General Plan

The following policies are included in the existing General Plan regarding aesthetics. The numbering is from the existing General Plan and therefore may not be consecutive.

Conservation and Open Space Element

- Goal COS-14 Preserve important cultural resources.
    - COS-P14.1 Historic and cultural resources management shall be coordinated with nearby jurisdictions, including the five incorporated municipalities, the Lassen and Plumas National Forests, other planning and regulatory agencies, and local tribes.
    - COS-P14.2 As part of CEQA and NEPA projects, evaluations of surface and subsurface cultural resources in the county shall be conducted. Such evaluations should involve consultation with the Northeast Information Center.
    - COS-P14.3 The Northeast Information Center and appropriate historic and preservation professionals shall be consulted when considering re-use of historic sites.
- Goal COS-15 Ensure that new development does not adversely impact cultural resources.
    - COS-P15.1 Areas found during construction to contain significant historic or prehistoric archaeological artifacts shall be examined by a qualified consulting archaeologist or historian for appropriate protection and preservation. Historic or prehistoric artifacts found during construction shall be examined by a qualified consulting archaeologist or historian to determine their significance and develop appropriate protection and preservation measures.*
    - COS-P15.2 Any archaeological or paleontological resources on a development project site shall be either preserved in their sites or adequately documented as a condition of removal. When a development project has sufficient flexibility, avoidance and preservation of the resource shall be the primary mitigation measure.
    - COS-P15.3 Demolition permit applications on potentially important historic sites shall be subject to discretionary review.
- Goal COS-16 Respect Native American culture and planning concerns.
    - COS-P16.1 County staff shall participate in a dialog with local Native American tribes to collaborate on tribal land use plans.
    - COS-P16.2 Impacts to the traditional Native American landscape shall be considered during California Environmental Quality Act or National Environmental Protection Act review of development proposals.

- COS-P16.3 Human remains discovered during implementation of public and private development projects shall be treated with dignity and respect. Such treatment shall fully comply with the federal Native American Graves Protection and Repatriation Act and other appropriate laws.
- COS-P16.4 If human remains are located during any ground disturbing activity, work shall stop until the County Coroner has been contacted, and, if the human remains are determined to be of Native American origin, the NAHC and most likely descendant have been consulted.
- COS-P16.5 Consistent with State local and tribal intergovernmental consultation requirements such as SB18, the County shall consult with Native American tribes that may be interested in proposed new development projects and land use policy changes.

Butte County Code

Cultural resources are not separately addressed in the Butte County Code but are incorporated into various sections. The County Code provides for the protection of cultural resources in Chapter 20, Subdivision, and Chapter 24, Zoning.

Chapter 24-85 requires provisions for clustered development to retain open space for the preservation of environmentally sensitive areas, including important cultural resources (24-85(B)). It also lists sensitive archaeological sites as areas not suited for development (24-90(A)(4)) and requires telecommunications facilities to be located more than 500 feet from any building or feature listed as culturally significant (24-181-A(3)(c)). It also prohibits locating such facilities in areas of historical or cultural importance unless there are no feasible alternatives, in which case the Northeast Information Center at California State University (CSU) Chico and the Butte County Historical Society would review and comment on the application (24-181-O). It sets standards for unanticipated discoveries of archaeological resources during construction activities in the sports and entertainment zones, requiring construction to cease in the event an archaeological resource is discovered until an archaeologist is brought in to assess and treat the discovery (24-24(F)).

Additionally, Chapter 24-34.1 outlines land use and development standards specific to the Butte Creek Canyon Overlay Zone intended to protect and preserve the historical and ecological resources important to Butte County, and specifically mandates consulting the California Historical Resources Information System and CSU Chico for recommendations and mitigations necessary to preserve historic, cultural, and archaeological sites (24-34.1D(5)).

Chapter 20 mandates more restrictive setbacks in areas where structural development would destroy historic and archaeological sites (20-121.1(3)). It also requires submittal of an archaeological survey along with a vesting tentative map when filing for a build (20-255(b)(8)).

Municipal Codes

Individual cities and towns in Butte County that currently have adopted general plans that consider a cultural resources element include Oroville, Chico, Biggs, and Paradise. Cultural resource provisions in these individual plans typically include goals and policies to preserve archaeological and historic resources, conduct current inventories of cultural resources and historic landmarks in the city or town jurisdiction, and develop or adhere to guidelines to ensure that potential impacts to cultural resources are minimized.

These individual general plans can be updated up to four times per year, and their mandates and provisions are regularly in the process of being reworked, updated, and finessed to apply to relevant and up-to-date community concerns about land use. Any planning or land use development that occurs within the limit of a city or town will be subject to the individual goals, policies, provisions, and procedures of the most current city-specific or town-specific general plan.

5.5.1.2 EXISTING CONDITIONS

A general countywide record search was requested and conducted at the Northeast Information Center (NEIC) of the California Historical Resources Information System at CSU Chico. Specifically, the NEIC keeps records of known archaeological and architectural sites and studies on U.S. Geological Survey 7.5-minute topographic quadrangle maps. All of the such maps covering Butte County were consulted by NEIC staff. This information provided the basis for the basic archaeological-sensitivity assessment of Butte County, discussed later in this report. Additionally, NEIC consulted the following sources: Office of Historic Preservation's historic property listings, California State Archaeological Determinations of Eligibility, NEIC historic resources maps, California Inventory of Historic Resources, *California Place Names,*[6] *California Gold Camps,*[7] Caltrans Historic Bridge Inventory, California Historical Landmarks (1996), California Points of Historical Interest (1992), *Historic Spots in California,*[8] and the Butte County Built Environment Resources Directory.

Archaeological Resources

Of the 4,008 archaeological sites recorded in Butte County, 2,155 sites are either prehistoric archaeological resources or include a prehistoric archaeological component. There are 1,853 sites that are historic period sites. According to 2012 data from the California Office of Historic Preservation, a total of 40 archaeological sites are listed on or have been formally recommended eligible for listing on the NRHP (and therefore by default on the CRHR). Of these, 31 are prehistoric archaeological sites, 3 are historic-period archaeological sites, and 6 are archaeological sites that contain both prehistoric and historic-period components. The most current Archaeological Determinations of Eligibility listing dates to 2012.

Prehistoric Archaeological Resources

[6] Gudde, E.G., 1969. California Place Names: the Origin and Etymology of Current Geographical Names. Berkeley, CA: University of California Press.

[7] Gudde, E.G., 1969. California Place Names: the Origin and Etymology of Current Geographical Names. Berkeley, CA: University of California Press.

[8] Kyle, D.E., 1990. Historic Spots in California. Stanford, CA: Stanford University Press.

Previous studies in the general region provide reasonable expectations for the range of archaeological property types likely to occur in Butte County. Prehistoric site types include habitation sites, limited occupation sites, hunting/processing camps, lithic reduction stations, milling stations, quarries/single reduction locations, rock-art sites, bedrock milling features, and burial locations. Sites may fall into more than one category. For example, habitation sites may be associated with rock art. Therefore, sites may be classified as more than one site type.

Habitation sites are locations of long-term occupation. These sites were typically located near streams and springs, which are abundant in Butte County. Habitation sites are characterized by midden deposits and a variety of artifacts (flaked-stone debitage, bifaces, unifaces, other flaked-stone tools, ground-stone implements, and fire-affected rock).

Temporary camps are distinguished from habitation sites by the absence or limited development of midden deposits. Archaeological deposits at temporary camps are typically shallow or restricted to the surface and are limited principally to ground-stone tools, flaked-stone tools, and debitage (in approximate descending order of frequency).

Lithic scatters are collections of flaked- or ground-stone debris, including tools and debitage that relate to post-quarry reduction and tool manufacturing efforts. They are perceived primarily as daily or overnight task-oriented camps where a limited range of activities was conducted.

The most common prehistoric site type found in the Butte County area is temporary occupation sites. Other site types found in the area include hunting/processing camps, lithic scatters, milling stations sites, habitation sites, quarry/single reduction loci, and rock art sites.

The overall prehistoric archaeological sensitivity of Butte County is generally considered high, particularly in areas near water sources or on terraces along watercourses. In particular, the Sacramento River and Feather River watersheds in the Sierra foothills possess river terraces that are rich in archaeological resources. In the Oroville area where the forks of the Feather River converge, the archaeological site density is one of the highest in California; at least 500 sites were recorded in this area between 2005 and 2006 alone and reported to the NEIC. In general, the lands on the margins of the Sacramento River and other major waterways are sensitive for prehistoric archaeological resources. Prehistoric archaeological sites are often along riverbanks in the Sacramento Valley, although they are usually found on natural rises that protected the inhabitants from frequent floods. Sites along the Sacramento River and other major drainages in Butte County do exist, and the possibility remains that additional prehistoric deposits may be buried in similar locations, in natural buried contexts (such as under alluvial deposits) as well as cultural buried contexts (such as below constructed levees or mixed in as a portion of levee fill material).

Historic-Period Archaeological Resources

Historic site types include old transportation corridors and alignments, remnants of activities associated with historic homesteading, ranching and agriculture, mining, and commerce. The overall historic archaeological sensitivity of Butte County area is generally considered moderately high in areas where historic records indicate transportation routes, agricultural settlements, and mining.

Historical Resources

The Historic Property Data File Historic Resources Inventory (HRI), which is maintained by SHPO, identifies properties that have been recorded and whether those properties are considered eligible or ineligible for listing in the NRHP. The listing for Butte County indicates that over 1,000 properties have been inventoried at some level. This includes several hundred archaeological or built environment resources that are listed or appear to meet the criteria for listing in the NRHP. In general, listing a property in the NRHP involves submission of a formal nomination form that requires concurrence from SHPO, the State Historical Resources Commission. and the Keeper of the National Register. Properties that are evaluated and, with SHPO concurrence, found to be eligible for listing under one or more of the NRHP criteria but are never nominated, are afforded the same protections for federally funded projects as listed properties. As noted previously, properties listed or found eligible for listing are also automatically eligible for the CRHR. The HRI also includes buildings that have been identified as historically significant by local government agencies.

The Built Environment Resources Directory (BERD) provides information regarding non-archaeological resources in the SHPO's Inventory. The listing for Butte County indicates that 993 built environment resources have been inventoried at some level; many of these overlap with the HRI listings. Eligibility status listed in the BERD is current as of 2020. An overview is given, below, of the total numbers and types of properties recorded by region in Butte County, and of properties determined or presumed eligible for the NRHP, CRHR, or local listing in Butte County.

Oroville Area

Surveys have identified 108 buildings and structures in the Oroville area, including several in the Old Oroville Commercial District; 73 are listed in the BERD and meet the criteria for listing in the NRHP, the CRHR, or have local designation. Among these are buildings that make up the Berkeley Olive Association Historic District, located in the vicinity of Coal Canyon Road and Rocky Lane, that was listed in the National Register in 2000. Notable individually eligible buildings in and around Oroville (listed between 1979 and 2007) include:

- Oroville Chinese Temple (1500 Broderick Street)
- State Theatre (1489 Myers Street)
- Old Oroville Commercial District Building (Montgomery Street)
- Governor Perkins Building (1864 Montgomery Street)
- The Fong Lee Company (address restricted)
- Oroville Carnegie Library (1675 Montgomery Street)
- Oroville Inn (2066 Bird Street)
- Main US Post Office (1735 Robinson Street)
- Biggs Ranch and associated structures and buildings (1359 Oroville Highway)
- Gem Saloon Building (1337 Huntoon Street)
- Bloomer Hill Fire Lookout Station
- Washington Block Building (1975 Montgomery Street)
- Table Mountain Boulevard Bridge

Chico Area

Chico includes some of the most important cultural resources in the county. Surveys have identified 579 buildings and structures in the Chico area; of these, 123 have been evaluated and have been listed or found to meet the criteria for listing in the NRHP, the CRHR, or have local designation. Among these are buildings that make up the South of Campus Neighborhood Historic District. Located in the vicinity of Cherry Street and 2nd through 6th Streets, this historic district was listed in the National Register in 1991. Notable individually eligible buildings in and around Chico include the Southern Pacific Depot (5th Street); the Chester Cole Residence (334 Normal Avenue); the Bidwell Mansion (Sowillenno Avenue); the Patrick Rancheria (SR-99); the Patrick Ranch House; the A. H. Chapman House (256 E. 12th Street); the Silberstein Park Building (426 to 434 Broadway); St. John's Episcopal Church (230 Salem Street); and the Stansbury House (307 W. 5th Street).

Paradise Area

The HRI and BERD together list 33 buildings and structures in and around Paradise that have been surveyed. Four of these have been evaluated and found to meet the criteria for listing in the NRHP, the CRHR, or have local designation. Among these, the Centerville Schoolhouse was nominated and listed in the National Register in 1972. The Honey Run Covered Bridge, listed in 1988, was destroyed by the 2018 Camp Fire, though local efforts are underway to rebuild the bridge.

Gridley Area

The town of Gridley includes 68 built environment properties that have been surveyed; of these, two have been evaluated and found to meet the criteria for listing in the NRHP, the CRHR, or have local designation. The Hazel Hotel (850 Hazel Street) was listed in the National Register in 2001.

Biggs Area

Twenty-three buildings and structures in the vicinity of Biggs have been surveyed. One of these, the Biggs Rice Experiment Station, has been evaluated and found to meet the criteria for listing in the NRHP, the CRHR, or have local designation. None have been formally nominated and listed in the National Register.

Other Areas

In areas of Butte County other than those listed above, 237 buildings and structures have been surveyed and recorded; of these, 12 have been evaluated and found to meet the criteria for listing in the NRHP, the CRHR, or have local designation. Among these built environment resources, the following have been formally nominated and listed in the NRHP: the W. W. Durham House in Durham, the Magalia Dam and the Magalia Community Church in Magalia, Big Bear Mountain Lookout and Brush Creek Standard Office in Plumas National Forest, Bridge #12-38 on SR-70 in Pulga, the Inskip Hotel near Stirling City, and the Hyatt Power House Switching Yard near the Oroville Dam.

California State Historical Landmarks

The State of California officially began commemorating sites important to the history of the state in 1932. Originally, the California Historical Landmarks emphasized well-known places and events, including the missions, early settlements, and the Gold Rush. Over the years, the program has been refined to include only sites that are of statewide historical importance and must be the first, last, only, or most significant of a type in a large geographical area.

The following lists the 10 resources in Butte County that the state has designated as California Historical Landmarks:

- Hooker Oak (Landmark No. 313), Bidwell Park, Chico
- Old Suspension Bridge (Landmark No. 314), Lake Oroville State Recreation Area, Oroville
- Rancho Chico and Bidwell Adobe (Landmark No. 329), Bidwell Mansion State Historic Park, Chico
- Bidwell's Bar (Landmark No. 330), Lake Oroville State Recreation Area, Oroville
- Chinese Temple (Landmark No. 770), Magalia
- Dogtown Nugget Discovery Site (Landmark No. 771), Magalia
- Oregon City (Landmark No. 807), Diggins Drive between Oroville and Cherokee
- Discovery Site of the Last Yahi Indian (Landmark No. 809), Oroville
- Chico Forestry Station and Nursery (Landmark No. 840-2), Bidwell Park, Chico
- Mother Orange Tree of Butte County (Landmark No. 1043), near the toll bridge at Bidwell's Bar, Lake Oroville State Recreation Area, Oroville

California Points of Historical Interest

California Points of Historical Interest are sites, buildings, features, or events that are of local (city or county) significance and have anthropological, cultural, military, political, architectural, economic, scientific or technical, religious, experimental, or other value. No historical resource may be designated both a Landmark and a Point of Historical Interest. If a Point of Historical Interest is subsequently granted status as a Landmark, the Point designation will be retired. To be eligible for designation as a Point of Historical Interest, a resource must meet at least one of the following criteria: the first, last, only, or most significant of its type in the State or within the local geographic region (city or county); association with an individual or group having a profound influence on the history of the local area; a prototype of, or an outstanding example of, a period, style, architectural movement or construction; or is one of the more notable works or the best surviving work in the local region of a pioneer architect, designer or master builder.

There are 20 California Points of Historical Interest in Butte County. They are:

- Lott Museum, Oroville
- Manzanita School, east of Gridley
- Chico Flour Mill, Chico (Bidwell's Mill Site, Bidwell Mill Stones)

- Garrott's Sawmill, Oroville
- California-Oregon Railroad Depot, Gridley
- Centerville Schoolhouse, northeast of Chico
- Old Chinese Cemetery, vicinity of Oroville
- Townsite of Cherokee and Spring Valley Mine, near Oroville
- Little Chapman Mansion, Chico
- Butte County Railroad Depot, Paradise
- Long's Bar, near Oroville
- Oroville Cemetery, vicinity of Oroville
- Chinese Cemetery, vicinity of Oroville
- Jewish Cemetery, vicinity of Oroville
- Site of 14-Mile House, Toll Station, and Wayside Inn, vicinity of Chico
- Richardson Springs Resort, northeast of Chico
- Odd Fellows Home (Bella Vista Hotel) Site, vicinity of Thermalito
- The Fagan House, east of Gridley
- Bethel African Methodist Episcopal Church, Chico
- Gianella Bridge, vicinity of Chico

5.5.2 STANDARDS OF SIGNIFICANCE

The proposed project would result in a significant aesthetic impact if it would:

1. Cause a substantial adverse change in the significance of a historical resource pursuant to CEQA Guidelines Section 15064.5.
2. Cause a substantial adverse change in the significance of an archeological resource pursuant to CEQA Guidelines Section 15064.5.
3. Disturb any human remains, including those interred outside of formal cemeteries.
4. Cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code Sections, 21074, 5020.1(k), or 5024.1.
5. In combination with past, present, and reasonably foreseeable projects, result in significant cumulative impacts with respect to cultural resources and tribal cultural resources.

5.5.3 PROPOSED GENERAL PLAN POLICIES

The following relevant policies and actions of the Butte County General Plan Update may reduce the potential impacts on cultural resources as a result of implementation of the proposed project.

Conservation and Open Space Element

- COS-P16.1: Areas found during construction to contain significant historic or prehistoric archaeological artifacts shall be examined by a qualified consulting archaeologist or historian for appropriate protection and preservation. Historic or prehistoric artifacts found during construction shall be examined by a qualified consulting archaeologist or historian to determine their significance and develop appropriate protection and preservation measures.
- COS-P16.2: Any archaeological or paleontological resources on a development project site shall be either preserved in their sites or adequately documented as a condition of removal. When a development project has sufficient flexibility, avoidance and preservation of the resource shall be the primary mitigation measure.
- COS-P16.3: Demolition permit applications on potentially important historic sites shall be subject to discretionary review.
- COS-P15.1: Historic and cultural resources management shall be coordinated with nearby jurisdictions, including the five incorporated municipalities, the Lassen and Plumas National Forests, other planning and regulatory agencies, and local tribes.
- COS-P15.2: In consultation with the Northeast Information Center, create guidelines for evaluating development project impacts to surface and subsurface cultural resources, including specific mitigations for impacts that are identified.
- COS-P15.3: The Northeast Information Center and appropriate historic and preservation professionals shall be consulted when considering re-use of historic sites.
- COS-P16.1: Areas found during construction to contain significant historic or prehistoric archaeological artifacts shall be examined by a qualified consulting archaeologist or historian for appropriate protection and preservation. Historic or prehistoric artifacts found during construction shall be examined by a qualified consulting archaeologist or historian to determine their significance and develop appropriate protection and preservation measures.
- COS-P17.1: The County shall maintain collaborative relationships with local Native American tribal representatives to facilitate consultation in the review of future projects that have the potential to impact tribal cultural resources.
- COS-P17.2: County staff shall participate in a dialog with local Native American tribes to collaborate on tribal land use plans.
- COS-P17.4: Impacts to the traditional Native American landscape shall be considered during California Environmental Quality Act or National Environmental Protection Act review of development proposals.
- COS-P17.5: Human remains discovered during implementation of public and private development projects shall be treated with dignity and respect. Such treatment shall fully comply with the federal Native American Graves Protection and Repatriation Act and other appropriate laws.
- COS-P17.6: If human remains are located during any ground disturbing activity, work shall stop until the County Coroner has been contacted, and, if the human remains are determined to be of Native American origin, the NAHC and most likely descendant have been consulted.

- **COS-P17.7:** Consistent with State local and tribal intergovernmental consultation requirements such as SB18 and AB52, the County shall consult with Native American tribes that may be interested in proposed new development projects and land use policy changes.

5.5.4 IMPACT DISCUSSION

CULT-1	The proposed project would not cause a substantial adverse change in the significance of a historical resource pursuant to CEQA Guidelines Section 15064.5.

General Plan 2040

Section 15064.5 (b)(1) of the CEQA Guidelines defines a substantial adverse change in the significance of a historic resource to be 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."

Development allowed by General Plan Update could cause a substantial adverse change in the significance of a historical resource. Specifically, direct impacts could occur if buildings determined to be historic were demolished or significantly altered as a result of development allowed by General Plan Update.

However, the General Plan Update includes goals, policies and actions that would address potential historic resource impacts and propose mitigation, if applicable. Conservation and Open Space Element Goal COS-16 and its associated policies and actions address potential impacts of new development on cultural resources. Specifically, Policy COS-P16.1 requires examination by a qualified consulting archaeologist or historian and appropriate protection and preservation when significant historic resources are found during construction. Policy COS-P16.3 requires a discretionary review of demolition permit applications on potentially important historic sites. In addition, Action COS-A16.1 directs the County to create guidelines for evaluating and mitigating project impacts to cultural resources, in consultation with the NEIC.

General Plan Update also seeks to preserve important historical resources through Conservation and Open Space Element Goal COS-15 and its associated policies and actions. In particular, Policy COS-P15.2 requires that evaluations of cultural resources be conducted as part of the review process under CEQA and the National Environmental Protection Act (NEPA). Policy COS-P15.3 requires consultation with the NEIC and appropriate historic and preservation professionals when considering reuse of historic sites. In addition, Actions COS-A15.1 through COS-A15.6 direct the County to seek funding for and conduct studies that would define the types and categories of historic and cultural resources in the county, and to inventory known cultural resources.

Upper Ridge Community Plan

As discussed in Chapter 3, Project Description, the Upper Ridge Community Plan (URCP) would increase development potential in the Upper Ridge community with 28 parcels redesignated from Retail and Office to Mixed-use land uses in the Old Magalia and Magalia Center neighborhoods.

The location for potential development in the Upper Ridge community includes the commercial center of Old Magalia. This area is the historic old town of the Upper Ridge and once connected to Chico via railway (Butte County 2022). Future development under the proposed project could adversely impact historic resources through changes to accommodate adaptive use, removal, or reconstruction. Development in the URCP would be subject to the following Conservation Element Policies of the General Plan Update, which would protect historical resources. Specifically, Policy COS-P16.1 requires examination by a qualified consulting archaeologist or historian and appropriate protection and preservation when significant historic resources are found during construction. Policy COS-P16.3 requires a discretionary review of demolition permit applications on potentially important historic sites.

Together, the goals, policies and actions in General Plan Update would reduce potential historical resource impacts to a less than significant level.

Level of Significance Before Mitigation: CULT-1 would be less than significant.

Mitigation Measures

No mitigation measures are required.

CULT-2	The proposed project would not cause a substantial adverse change in the significance of an archeological resource pursuant to CEQA Guidelines Section 15064.5.

General Plan 2040

Development allowed by General Plan Update could result in direct or indirect impacts to archaeological resources. Construction activities, such as grading and excavation, may result in the accidental destruction or disturbance of archaeological sites.

However, General Plan Update includes goals, policies and actions that would mitigate potential archaeological resource impacts. The Conservation and Open Space Element Goal COS-15 and its associated policies and actions address the potential adverse impacts of new development on cultural resources. In particular, Policy COS-P16.1 requires examination and appropriate protection and preservation of prehistoric archaeological artifacts found during construction, and Action COS-A16.1 directs the County to create guidelines for evaluating and mitigating impacts to surface and subsurface cultural resources. Furthermore, Policy COS-P16.2 requires that any archaeological resources on a project site be either preserved in their sites or adequately documented as a condition of removal, and directs that when a project has sufficient flexibility, avoidance and preservation of the resource should be the primary mitigation measure.

In addition, the Conservation and Open Space Element Goal COS-15 and its associated policies and actions aim to preserve important archaeological resources. In particular, Policy COS-P15.2 requires that evaluations of surface and subsurface cultural resources be conducted as part of the review process under CEQA and NEPA, and Actions COS-A15.1 through COS-A15.6 direct the County to seek funding for and

conduct studies that would define the types of cultural resources in the county and inventory known cultural resources.

Together, the goals, policies, and actions in the General Plan Update would reduce potential archaeological resource impacts to a less than significant level.

Level of Significance Before Mitigation: CULT-2 would be less than significant.

Mitigation Measures

No mitigation measures are required.

Upper Ridge Community Plan

As discussed in Chapter 3, Project Description, the URCP would increase development potential in the Upper Ridge community, with 28 parcels redesignated from Retail and Office to Mixed-use land uses in the Old Magalia and Magalia Center neighborhoods.

There are 105 archeological sites in the URCP area. Of the 105 archeological sites, 20 are prehistoric and 85 are historic-period sites. Implementation of the proposed project could result in a substantial adverse change in the significance of an archaeological resource, as well as the potential disturbance of currently undiscovered archaeological resources on future development sites. Therefore, this impact is potentially significant.

However, the General Plan Update includes goals, policies, and actions in the Conservation and Open Space Element which would protect archeological resources. Specifically, Policy COS-P16.1 requires examination and appropriate protection and preservation of prehistoric archaeological artifacts found during construction, and Action COS-A16.1 directs the County to create guidelines for evaluating and mitigating impacts to surface and subsurface cultural resources.

Together, the goals, policies and actions in the General Plan Update would reduce potential historical resource impacts to a less than significant level.

Level of Significance Before Mitigation: CULT-2 would be less than significant.

Mitigation Measures

No mitigation measures are required.

CULT-3	The proposed project would not disturb any human remains, including those interred outside of formal cemeteries.

General Plan 2040

Although General Plan Update would not affect any formal cemeteries or known burials outside of formal cemeteries, future development could disturb unknown human remains.

However, the General Plan Update includes goals, policies, and actions that would mitigate potential impacts associated with the disturbance of human remains. Specifically, Conservation and Open Space Element Policy COS-P17.5 requires that human remains discovered during implementation of public and private projects be treated with dignity and respect, and that treatment of those remains fully comply with the federal Native American Graves Protection and Repatriation Act and other appropriate laws. Policy COS-P17.6 requires that, if human remains are located during any ground disturbing activity, work must stop until the County Coroner has been contacted. If the human remains are determined to be of Native American origin, the NAHC and the most likely descendant would need to be consulted before resuming work.

Upper Ridge Community Plan

As discussed in Chapter 3, Project Description, the URCP would increase development potential in the Upper Ridge community, with 28 parcels redesignated from Retail and Office to Mixed-use land uses in the Old Magalia and Magalia Center neighborhoods. Although the Upper Ridge community would not affect any formal cemeteries or known burials outside of formal cemeteries, future development could disturb unknown human remains.

Potential development in the URCP area would be subject to the following Conservation Element Policies of the General Plan Update that detail proper procedures in the event of uncovering human remains or formal cemeteries. Policy COS-P17.5 requires that human remains discovered during implementation of public and private projects be treated with dignity and respect, and that treatment of those remains fully comply with the federal Native American Graves Protection and Repatriation Act and other appropriate laws. Policy COS-P17.6 requires that, if human remains are located during any ground-disturbing activity, work must stop until the County Coroner has been contacted.

The proposed General Plan Update goals and policies, in combination with applicable State and local requirements, would ensure that potential impacts from septic tanks would be less than significant.

Together, the goals, policies, and actions in General Plan Update would reduce potential impacts associated with the disturbance of human remains to a less than significant level.

Level of Significance Before Mitigation: CULT-3 would be less than significant.

Mitigation Measures

No mitigation measures are required.

CULT-4	The proposed project would not cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code Sections, 21074, 5020.1(k), or 5024.1.

General Plan 2040

Butte County includes the territories of four Native American groups, the Maidu, the Nisen, the Knonkow and the Yana. The Maidu territory is located at the approximate boundary between the northern Sierra Nevada and southern Cascade Range and includes mountain valleys from Honey Lake to Lassen Peak. To the south, the Nisenan territory extends from the banks of the Sacramento River across the lower Feather River drainages to the crest of the Sierra. The Konkow territory includes Feather River area west of Richbar and extends to the southwest almost to the Sutter Buttes, and the Sacramento River area from about Butte City on the south to Butte Meadows on the north. The Yana territory extends from the edge of the Sacramento Valley east to the crest of the Cascades and northern Sierra.

Development allowed by General Plan Update could result in direct or indirect impacts to tribal cultural resources. Construction activities, such as grading and excavation, may result in the accidental destruction or disturbance of tribal cultural resources and/or sites. However, General Plan Update includes goals, policies, and actions that would serve to protect and reduce impacts related tribal cultural resources. The Conservation and Open Space Element Goal COS-17 and its associated policies and actions aim to reduce potential impacts of new development on tribal cultural resources:

- COS-P17.1: The County shall maintain collaborative relationships with local Native American tribal representatives to facilitate consultation in the review of future projects that have the potential to impact tribal cultural resources.
- COS-P17.2: County staff shall participate in a dialog with local Native American tribes to collaborate on tribal land use plans.
- COS-P17.4: Impacts to the traditional Native American landscape shall be considered during California Environmental Quality Act or National Environmental Protection Act review of development proposals.
- COS-P17.5: Human remains discovered during implementation of public and private development projects shall be treated with dignity and respect. Such treatment shall fully comply with the federal Native American Graves Protection and Repatriation Act and other appropriate laws.
- COS-P17.6: If human remains are located during any ground disturbing activity, work shall stop until the County Coroner has been contacted, and, if the human remains are determined to be of Native American origin, the NAHC and most likely descendant have been consulted.
- COS-P17.7: Consistent with State local and tribal intergovernmental consultation requirements such as SB18 and AB52, the County shall consult with Native American tribes that may be interested in proposed new development projects and land use policy changes.

The policies and regulations in the General Plan Update would address potential impacts regarding tribal cultural resources. Therefore, the impacts would be less than significant.

Level of Significance Before Mitigation: CULT-4 would be less than significant.

Mitigation Measures

No mitigation measures are required.

Upper Ridge Community Plan

As discussed in Chapter 3, Project Description, the URCP would increase development potential in the Upper Ridge community, with 28 parcels redesignated from Retail and Office to Mixed-use land uses in the Old Magalia and Magalia Center neighborhoods.

The first human inhabitants of the URCP area were the Konkow Valley Band of the Maidu Indians who resided in the ridges in the summer and fall (Butte County 2022). Implementation of the proposed project could result in a substantial adverse change in the significance of a tribal cultural resource, as well as the potential disturbance of currently undiscovered tribal cultural resource on future development sites.

However, the General Plan Update includes goals, policies, and actions in the Conservation and Open Space Element that would protect tribal cultural resources. Specifically, Policy COS-P17.1 requires the County to maintain collaborative relationships with local Native American tribal representatives to facilitate consultation in the review of future projects that have the potential to impact tribal cultural resources. In addition, Action COS-A16.1 directs the County to create guidelines for evaluating and mitigating impacts to surface and subsurface cultural resources.

The policies and regulations in the General Plan Update would address potential impacts regarding tribal cultural resources. Therefore, the impacts would be less than significant.

Level of Significance Before Mitigation: CULT-4 would be less than significant.

Mitigation Measures

No mitigation measures are required.

5.5.5 CUMULATIVE IMPACTS

CULT-5	The proposed project, in combination with past, present, and reasonably foreseeable projects, would result in less-than-significant cumulative impacts with respect to cultural resources.

General Plan 2040

In general, cumulative impacts to cultural, historical, or paleontological resource sites would occur when a series of actions leads to the loss of a substantial type of site, building, or resource. For example, while the loss of a single historic building may not be significant to the character of a neighborhood or streetscape, continued loss of such resources on a project-by-project basis could constitute a significant cumulative

effect. This is most obvious in historic districts, where destruction or alteration of a percentage of the contributing elements may lead to a loss of integrity of the district overall. Changes to the setting or character of an area, for example, by adding modern structures on all sides of a historically significant building, thus altering the aesthetics of the streetscape, would create a significant impact. Destruction or relocation of historic buildings would also significantly impact the setting.

However, development in the Butte County region would be subject to federal and State laws protecting cultural resources. The goals, polices and actions of General Plan Update that protect historical, archaeological, and paleontological resources and human remains, in combination with these other regulations, would result in a less than significant cumulative impact to cultural resources.

Level of Significance Before Mitigation: CULT-5 would be less than significant.

Mitigation Measures

No mitigation measures are required.

5.5.6 REFERENCES

Butte, County of. 2022. Butte County Upper Ridge Community Plan. https://www.buttecounty.net/Portals/10/Planning/Upper%20Ridge%20Community%20Plan/URCP_Final_Plan_2-17-2022_Optimized.pdf?ver=2022-02-18-084825-757.

5.6 ENERGY

This chapter describes the potential energy impacts due to the buildout of the General Plan Update and Upper Ridge Community Plan (URCP) in the County. This section describes the regulatory framework and existing conditions, identifies criteria used to determine impact significance, provides an analysis of the potential energy impacts, and identifies proposed project policies and strategies and feasible mitigation measures that could minimize any potentially significant impacts.

5.6.1 ENVIRONMENTAL SETTING

5.6.1.1 REGULATORY FRAMEWORK

Federal Regulations

Federal Energy Policy and Conservation Act

The Energy Policy and Conservation Act of 1975 was established in response to the 1973 oil crisis. The act created the Strategic Petroleum Reserve, established vehicle fuel economy standards, and prohibited the export of U.S. crude oil (with a few limited exceptions). It also created Corporate Average Fuel Economy (CAFE) standards for passenger cars starting in model year 1978. The CAFE Standards are updated periodically to account for changes in vehicle technologies, driver behavior, and/or driving conditions.

The federal government issued new CAFE standards in 2012 for model years 2017 to 2025, which required a fleet average of 54.5 miles per gallon in 2025. In addition, on March 31, 2022, the National Highway Traffic Safety Administration finalized new fuel standards, which will increase fuel efficiency 8 percent annually for model years 2024 to 2025 and 10 percent annual for model year 2026. Overall, the new CAFE standards require a fleet average of 49 MPG for passenger vehicles and light trucks for model year 2026, which will be a 10 MPG increase relative to model year 2021 (NHTSA 2022).

Energy Independence and Security Act of 2007

The Energy Independence and Security Act of 2007 (Public Law 110-140) seeks to provide the nation with greater energy independence and security by increasing the production of clean renewable fuels; improving vehicle fuel economy; and increasing the efficiency of products, buildings, and vehicles. It also seeks to improve the energy performance of the federal government. The act sets increased corporate average fuel economy standards; the renewable fuel standard; appliance energy-efficiency standards; building energy-efficiency standards; and accelerated research and development tasks on renewable energy sources (e.g., solar energy, geothermal energy, and marine and hydrokinetic renewable energy technologies), carbon capture, and sequestration (USEPA 2022).

Energy Policy Act of 2005

Passed by Congress in July 2005, the Energy Policy Act includes a comprehensive set of provisions to address energy issues. This Act includes tax incentives for energy conservation improvements in commercial and residential buildings, fossil fuel production and clean coal facilities, and construction and operation of

nuclear power plants, among other things. Subsidies are also included for geothermal, wind energy, and other alternative energy producers.

National Energy Policy

Established in 2001 by the National Energy Policy Development Group, the National Energy Policy is designed to help the private sector and state and local governments promote dependable, affordable, and environmentally sound production and distribution of energy for the future. Key issues addressed by the energy policy are energy conservation, repair and expansion of energy infrastructure, and ways of increasing energy supplies while protecting the environment.

Natural Gas Pipeline Safety Act of 1968

The Natural Gas Pipeline Safety Act of 1968 authorizes the United States Department of Transportation to regulate pipeline transportation of flammable, toxic, or corrosive natural gas and other gases as well as the transportation and storage of liquefied natural gas. The Pipeline and Hazardous Materials Safety Administration within the Department of Transportation develops and enforces regulations for the safe, reliable, and environmentally sound operation of the nation's 2.6-million-mile pipeline transportation system.

State Regulations

Warren-Alquist Act

Established in 1974, the Warren-Alquist Act created the California Energy Commission (CEC) in response to the energy crisis of the early 1970s and the state's unsustainable growing demand for energy resources. The CEC's core responsibilities include advancing State energy policy, encouraging energy efficiency, certifying thermal power plants, investing in energy innovation, developing renewable energy, transforming transportation, and preparing for energy emergencies. The Warren-Alquist Act is updated annually to address current energy needs and issues, and its latest edition was in January 2022.

California Public Utilities Commission

In September 2008, the California Public Utilities Commission (CPUC) adopted the Long-Term Energy Efficiency Strategic Plan, which provides a framework for energy efficiency in California through the year 2020 and beyond. It articulates a long-term vision, as well as goals for each economic sector, identifying specific near-term, mid-term, and long-term strategies to assist in achieving these goals. This Plan sets forth the following four goals, known as Big Bold Energy Efficiency Strategies, to achieve significant reductions in energy demand:

- All new residential construction in California will be zero net energy by 2020.[1]
- All new commercial construction in California will be zero net energy by 2030.

[1] Zero net energy buildings are buildings that the total amount of energy used by the building on an annual basis is equal to or less than the amount of renewable energy created on the site.

- Heating, ventilation and air conditioning commonly referred to as "HVAC" will be transformed to ensure that its energy performance is optimal for California's climate.
- All eligible low-income customers will be given the opportunity to participate in the low-income energy efficiency program by 2020.

With respect to the commercial sector, the Long-Term Energy Efficiency Strategic Plan notes that commercial buildings, which include schools, hospitals, and public buildings, consume more electricity than any other end-use sector in California. The commercial sector's five billion-plus square feet of space accounts for 38 percent of the State's power use and over 25 percent of natural gas consumption. Lighting, cooling, refrigeration, and ventilation account for 75 percent of all commercial electric use, while space heating, water heating, and cooking account for over 90 percent of gas use. In 2006, schools and colleges were in the top five facility types for electricity and gas consumption, accounting for approximately 10 percent of State's electricity and gas use (CPUC 2011).

The CPUC and CEC have adopted the following goals to achieve zero net energy (ZNE) levels by 2030 in the commercial sector:

- Goal 1. New construction will increasingly embrace zero net energy performance (including clean, distributed generation), reaching 100 percent penetration of new starts in 2030.
- Goal 2. 50 percent of existing buildings will be retrofit to zero net energy by 2030 through achievement of deep levels of energy efficiency and with the addition of clean distributed generation.
- Goal 3. Transform the commercial lighting market through technological advancement and innovative utility initiatives.

Renewables Portfolio: Carbon Neutrality Regulations

Senate Bills 1078, 107, and X1-2 and Executive Order S-14-08

A major component of California's Renewable Energy Program is the renewables portfolio standard established under Senate Bills 1078 (Sher) and 107 (Simitian). Under the RPS, certain retail sellers of electricity were required to increase the amount of renewable energy each year by at least 1 percent in order to reach at least 20 percent by December 30, 2010. Executive Order (EO) S-14-08, signed in November 2008, expanded the state's renewable energy standard to 33 percent renewable power by 2020. This standard was adopted by the legislature in 2011 (SB X1-2). Renewable sources of electricity include wind, small hydropower, solar, geothermal, biomass, and biogas. The increase in renewable sources for electricity production decreases indirect greenhouse gas (GHG) emissions from development projects because electricity production from renewable sources is generally considered carbon neutral.

Senate Bill 350

Senate Bill 350 (de Leon) was signed into law in September 2015 and establishes tiered increases to the RPS—40 percent by 2024, 45 percent by 2027, and 50 percent by 2030. SB 350 also set a new goal to double the energy-efficiency savings in electricity and natural gas through energy efficiency and conservation measures.

Senate Bill 100

On September 10, 2018, Governor Brown signed SB 100. Under SB 100, the RPS for public-owned facilities and retail sellers consists of 44 percent renewable energy by 2024, 52 percent by 2027, and 60 percent by 2030. SB 100 also established a new RPS requirement of 50 percent by 2026. Furthermore, the bill establishes an overall state policy that eligible renewable energy resources and zero-carbon resources supply 100 percent of all retail sales of electricity to California end-use customers and 100 percent of electricity procured to serve all state agencies by December 31, 2045. Under the bill, the state cannot increase carbon emissions elsewhere in the western grid or allow resource shuffling to achieve the 100 percent carbon-free electricity target.

Senate Bill 1020

Senate Bill 1020 (SB 1020) was signed into law on September 16, 2022. It requires renewable energy and zero-carbon resources to supply 90 percent of all retail electricity sales by 2035 and 95 percent by 2040. Additionally, SB 1020 requires all state agencies to procure 100 percent of electricity from renewable energy and zero-carbon resources by 2035.

Energy Efficiency

California Building Energy Code: Building Energy Efficiency Standards

Energy conservation standards for new residential and nonresidential buildings were adopted by the California Energy Resources Conservation and Development Commission (now the CEC) in June 1977 (Title 24, Part 6, of the California Code of Regulations [CCR]). Title 24 requires the design of building shells and building components to conserve energy. The standards are updated periodically to allow for the consideration and possible incorporation of new energy efficiency technologies and methods. The 2019 Building Energy Efficiency Standards were adopted on May 9, 2018, and went into effect on January 1, 2020.

The 2019 standards move toward cutting energy use in new homes by more than 50 percent and require the installation of solar photovoltaic systems for single-family homes and multifamily buildings of three stories and less. The 2019 standards focus on four key areas: 1) smart residential photovoltaic systems; 2) updated thermal envelope standards (preventing heat transfer from the interior to the exterior and vice versa); 3) residential and nonresidential ventilation requirements; 4) and nonresidential lighting requirements (CEC 2018a). Under the 2019 standards, nonresidential buildings are 30 percent more energy efficient than under the 2016 standards, and single-family homes are 7 percent more energy efficient (CEC 2018b). When accounting for the electricity generated by the solar photovoltaic system, single-family homes would use 53 percent less energy compared to homes built to the 2016 standards (CEC 2018b).

Furthermore, on August 11, 2021, the CEC adopted the 2022 Building Energy Efficiency Standards, which were subsequently approved by the California Building Standards Commission in December 2021. The 2022 standards become effective and replace the existing 2019 standards on January 1, 2023. The 2022 standards would require mixed-fuel single-family homes to be electric-ready to accommodate replacement of gas appliances with electric appliances. In addition, the new standards also include prescriptive photovoltaic system and battery requirements for high-rise, multifamily buildings (i.e., more than three stories) and noncommercial buildings such as hotels, offices, medical offices, restaurants, retail stores, schools, warehouses, theaters, and convention centers (CEC 2021).

California Building Code: CALGreen

On July 17, 2008, the California Building Standards Commission adopted the nation's first green building standards. The California Green Building Standards Code (24 CCR, Part 11, known as "CALGreen") was adopted as part of the California Building Standards Code. CALGreen established planning and design standards for sustainable site development, energy efficiency (in excess of the California Energy Code requirements), water conservation, material conservation, and internal air contaminants.[2] The mandatory provisions of CALGreen became effective January 1, 2011, and were last updated in 2019. The 2019 CALGreen standards became effective on January 1, 2020.

2006 Appliance Efficiency Regulations

The 2006 Appliance Efficiency Regulations (20 CCR Sections 1601–1608) were adopted by the CEC on October 11, 2006, and approved by the California Office of Administrative Law on December 14, 2006. The regulations include standards for both federally regulated appliances and non–federally regulated appliances. They contain energy performance, energy design, water performance, and water design standards for appliances (including refrigerators, ice makers, vending machines, freezers, water heaters, fans, boilers, washing machines, dryers, air conditioners, pool equipment, and plumbing fittings) that are sold or offered for sale in California (California Code of Regulations Title 20, Parts 1600–1608). These standards are updated regularly to allow consideration of new energy efficiency technologies and methods.

Assembly Bill 1493

California vehicle GHG emission standards were enacted under AB 1493 (Pavley I). Pavley I is a clean-car standard that reduces GHG emissions from new passenger vehicles (light-duty auto to medium-duty vehicles) from 2009 through 2016 and is anticipated to reduce GHG emissions from new passenger vehicles by 30 percent in 2016. California implements the Pavley I standards through a waiver granted to California by the EPA. In 2012, the EPA issued a Final Rulemaking that sets even more stringent fuel economy and GHG emissions standards for model year 2017 through 2025 light-duty vehicles (see also the discussion on the update to the CAFE standards under *Federal*, above). In January 2012, the California Air Resources Board (CARB) approved the Pavley Advanced Clean Cars program (formerly known as Pavley II) for model years 2017 through 2025. The program combines the control of smog, soot, and global warming gases and requirements for greater numbers of zero-emission vehicles into a single package of standards. Under

[2] The green building standards became mandatory in the 2010 edition of the code.

California's Advanced Clean Car program, by 2025, new automobiles will emit 34 percent fewer global warming gases and 75 percent fewer smog-forming emissions (CARB 2017).

Executive Order N-79-20

On September 23, 2020, Executive Order N-79-20 was issued, which sets a time frame for the transition to zero-emissions (ZE) passenger vehicles and trucks in addition to off-road equipment. It directs CARB to develop and propose the following:

- Passenger vehicle and truck regulations requiring increasing volumes of new ZEVs (zero-emission vehicles) sold in the California toward the target of 100 percent of in-state sales by 2035.
- Medium- and heavy-duty vehicle regulations requiring increasing volumes of new ZE trucks and buses sold and operated in California toward the target of 100 percent of the fleet transitioning to ZEVs by 2045 everywhere feasible, and for all drayage trucks to be ZE by 2035.
- Strategies to achieve 100 percent zero emissions from all off-road vehicles and equipment operations in California by 2035, in cooperation with other State agencies, the EPA, and local air districts.

On August 25, 2022, CARB adopted the Advanced Clean Cars II (ACC II) regulations that codifies the EO goal of 100 percent of in-state sales of new passenger vehicles and trucks be ZE by 2035. Starting in year 2026, ACC II requires that 35 percent of new vehicles sold be ZE or plug-in hybrids.

Local Regulations

Butte County General Plan

The following policies are included in the existing General Plan regarding aesthetics. The numbering is from the existing General Plan and therefore may not be consecutive.

Conservation and Open Space Element

- Goal COS-3 Promote a sustainable energy supply.
    - COS-P3.1 The expansion and increased efficiency of hydroelectric power plants in the county shall be encouraged, provided that such plants can be expanded and that significant adverse environmental impacts associated with such plants can be successfully mitigated.
    - COS-P3.2 The development of renewable fuel sources in the county shall be encouraged, provided that such fuel sources can be built or expanded and that significant adverse environmental impacts associated with such development can be successfully mitigated.
    - COS-P3.3 Utility lines shall be constructed along existing utility corridors wherever feasible.
    - COS-P3.4 Solar-oriented and renewable design and grid-neutral development shall be encouraged.

- COS-P3.5 Developers shall give homebuyers the option of having renewable heat and power incorporated into new homes.
- COS-P3.6 Alternative energy sources such as solar shall continue to be used for County facilities, which set an example for others to follow.
- COS-P3.7 Wind power generation facilities, solar power generation facilities, and other alternative energy facilities shall be encouraged in all General Plan land use designations, consistent with zoning provided that significant adverse environmental impacts associated with such development can be successfully mitigated. All new proposed energy projects shall be compatible with the Military Operations Areas (MOAs) shown on Figure LU-5.

- Goal COS-4 Conserve energy and fuel resources by increasing energy efficiency.
  - COS-P4.1 Energy efficiency efforts of local businesses shall be promoted and rewarded.
  - COS-P4.2 The Zoning Ordinance shall incorporate shading requirements for new parking lots as appropriate to relieve the potential for heat islands.
  - COS-P4.3 New development shall meet the guidelines of the California Energy Star New Homes Program, or equivalent, and demonstrate detailed energy conservation measures.
  - COS-P4.4 Site and structure designs for new development projects shall maximize energy efficiency.

Upper Ridge Community Plan

The following policies are included in the existing URCP regarding energy. The numbering is from the plan (see web address for existing URCP) and therefore may not be consecutive.

Hazards Reduction Strategies

- **Strategy HS-1.5:** Work with partner agencies and other organizations to secure grant funding to provide low-cost energy retrofits reducing energy use.
  - Coordinate with North Valley Energy Watch and Community Action Agency of Butte County, Inc. (CAA) to provide financial assistance or reduced costs for energy and ventilation retrofits in residential and commercial buildings.
  - Coordinate with Pacific Gas and Electric (PG&E) and other utility providers to promote programs that reduce energy demand during extreme heat days, including the PG&E Energy Savings Assistance Program.
  - Coordinate with the U.S. Department of Health & Human Services to help residents with home energy bills, energy crises, weatherization, and energy-related minor home repairs through the Low Income Home Energy Assistance Program (LIHEAP).

Disaster Preparedness and Response Strategies

- **Strategy HS-2.2**: Encourage solar panels and energy storage in homes and commercial buildings to provide backup electricity supply.

Utility Infrastructure Strategies – Power and Communication

- **Strategy UI-4.2:** Encourage the adoption of backup power service for residences and businesses on the Upper Ridge, including installation of rooftop solar and battery backup systems.
- **Strategy UI-4.3:** Evaluate options for providing backup power service to critical communication infrastructure. These options could include a variety of means of providing backup power, such as battery backup power with solar recharge or generator backup power.

5.6.1.2 EXISTING CONDITIONS

Consumption Trends

To facilitate the assessment of local energy consumption patterns, it is useful to determine the types and purposes of energy consumption in Butte County. The energy that is tracked falls under two primary categories: electricity and natural gas. In Butte County specifically, residential land uses used approximately 253.2 million kilowatt-hours of electricity and 5.1 million therms of natural gas in 2019. Nonresidential land uses used approximately 153.4 million kilowatt-hours of electricity and 3.9 million therms of natural gas. This difference between residential and nonresidential electricity and natural gas consumption is relatively standard to other rural communities in California.

Residential

Table 5.6-1, *Butte County Existing Number of Housing Units and Type of Energy Consumed*, shows the types of energy used to heat residential dwellings in Butte County based on US Census data from 2000 and 2019. This data indicates that the use of "utility gas" (another name for natural gas) and wood showed the most significant decreases in use between 2000 and 2019. The use of electricity and "bottle, tank, or LP gas" (another name for propane) both increased during the same time period.

TABLE 5.6-1 BUTTE COUNTY EXISTING NUMBER OF HOUSING UNITS AND TYPE OF ENERGY CONSUMED

	2000		2019	
Fuel for Space Heating	Housing Units	Percent of Total	Housing Units	Percent of Total
Utility gas	44,827	56.34%	38,415	49.47%
Bottled, tank, or LP gas	7,761	9.75%	9,325	12.01%
Electricity	17,020	21.39%	23,199	29.88%
Fuel oil, kerosene, etc.	263	0.33%	67	0.09%
Wood	9,137	11.48%	4,917	6.33%
Solar energy	26	0.03%	934	1.20%
Other fuel	395	0.50%	368	0.47%
No fuel used	137	0.17%	426	0.55%
Total	**79,566**	**100%**	**77,651**	**100%**

Source: U.S. Census Bureau, 2000 and 2019, Housing Characteristics, Butte County, California.

There are various factors that influence the type and amount of energy consumed in a residential structure. The most important are the type of dwelling units, the size of the structure, the number of occupants and their habits, the weather conditions and time of year, the thermal integrity of the building (level of insulation and number and location of windows), the number of appliances (e.g., washing machine, clothes dryer, and swimming pool), and the type of appliances (e.g., gas versus electric heaters and ranges).

Typically, the most important factors influencing residential energy consumption are the size of the house, the type of house (detached single-family or multifamily structure), and the number of major appliances. A single-family home requires more energy for space heating than a multifamily unit, due to its bigger size and the amount of heat loss through external walls. It also requires more energy for operation of major appliances, as it usually houses more occupants.

Some residential energy needs can be fulfilled by either natural gas or electricity (e.g., space and hot water heating, cooking and clothes drying), while others are most likely dependent on electricity (e.g., lighting, radio, and television). In most homes, space and water heating use the most energy. Air conditioning and the use of major appliances such as ovens, refrigerators, televisions, and clothes dryers are other primary users of energy. In homes with swimming pools or spas, such facilities are usually among the largest energy users (CEC 2010).[3]

[3] California Energy Commission, October 2010, *2009 California Residential Appliance Saturation Study, Volume 2: Results*, http://web.archive.org/web/20190602112012/https://www.energy.ca.gov/2010publications/CEC-200-2010-004/CEC-200-2010-004-V2.PDF, accessed on November 9, 2021.

Commercial

The specific uses of electricity and natural gas in commercial buildings will vary widely depending on the building type. For example, lighting and office equipment are the largest electricity uses in an office building, while the largest share of a restaurant's electricity is spent on refrigeration and cooking. However, on average, the biggest user of electricity in a commercial building is lighting, followed by cooling, refrigeration, and ventilation. The largest natural gas uses in commercial buildings are space heating, water heating, and cooking. All other energy uses in commercial buildings account for approximately 31 percent of electricity use and 9 percent of natural gas use.

Industrial

In contrast to energy consumption in the residential and commercial sectors, industrial patterns of energy consumption depend upon the specific type of industrial operations. The major industrial activities in Butte County are wood processing, manufacturing, and gravel mining.

Energy use within the general category of "industrial processes" includes a number of specific uses.

- A significant portion of industrial gas use is for the purpose of heating water to various temperatures.
- Wood processing and manufacturing industries are high electrical and natural gas users. In general, these industries use electricity for 60 percent of their energy needs and natural gas for the remaining 40 percent.
- Electricity runs motors, conveyor belts, chipping machines, and manufacturing equipment. Natural gas is consumed for space heating and some specific industrial processes.
- In the stone and mineral extraction industry, electricity runs handling and crushing equipment. Drying and additional processing requires natural gas and/or fuel oils.
- The electricity portion of industrial process consumption includes a mixture of lighting, motor operation and the operation of more sophisticated electronic equipment.

Agricultural

Agricultural energy consumption represents a large portion of the total energy consumption in Butte County. As agricultural production continues to evolve, the energy needs in the county will also shift. Electricity is important in the agricultural sector since it is the main source of energy used to operate irrigation pumps, fans and wind-producing machines used to protect fruits from winter frost. Natural gas, while critical to the greenhouse industry, heating of agricultural buildings and crop drying, is used less than electricity in agricultural activities. To counteract high prices and electricity blackouts, the Butte County Rice Growers Association (BUCRA) incorporated a 200 KW solar array to their rice drying facility in 2004; since then, they've continued to expand their solar energy infrastructure, including a second 200 KW solar array constructed in 2009 and a new 2 MW solar array at the main plant constructed in 2016.

Energy Providers

PG&E Electricity Supply

Electricity

The Pacific Gas and Electric Company (PG&E) provides Butte County with most of its electricity. The cities of Gridley and Biggs operate their own power utilities, Gridley Municipal Utilities and Biggs Electrical Department, which each purchase their electricity through the Northern California Power Agency (NCPA). PG&E is a publicly traded utility company that generates, purchases, and transmits energy under contract with the CPUC. Its service territory is 70,000 square miles in area, roughly extending north to south from Eureka to Bakersfield, and east to west from the Sierra Nevada range to the Pacific Ocean. The electricity distribution system of PG&E consists of 106,681 circuit miles of electric distribution lines and 18,466 circuit miles of interconnected transmission lines (PG&E 2022). PG&E owns and maintains above and below ground networks of electric and gas transmission and distribution facilities throughout the County.

PG&E electricity is generated by a combination of sources such as coal-fired power plants, nuclear power plants, and hydro-electric dams, as well as newer sources of energy, such as wind turbines and photovoltaic plants or "solar farms." "The Grid," or bulk electric grid, is a network of high-voltage transmission lines, linked to power plants within the PG&E system. The distribution system, comprised of lower voltage secondary lines, is at the street and neighborhood level, and consists of overhead or underground distribution lines, transformers, and individual service "drops" that connect to the individual customer.

Total electricity consumption in PG&E's service area in gigawatt-hours (GWh) was 102,247 GWh in 2020 (CEC 2022a); one GWh is equivalent to one million kilowatt-hours (kWh). Sources of electricity sold by PG&E for its base plan in 2020, the latest year for which data are available, were (CEC 2022b):

- 31 percent renewable, consisting mostly of solar and wind
- 10 percent large hydroelectric
- 16 percent natural gas
- 43 percent nuclear

Natural Gas

PG&E gas transmission pipeline systems serve approximately 4.5 million gas customers in northern and central California (PG&E 2022). The system is operated under an inspection and monitoring program. The system operates in real time on a 24-hour basis, and includes leak inspections, surveys, and patrols of the pipelines. PG&E also adopted Pipeline 2020 program, which aims to modernize critical pipeline infrastructure, expand the use of automatic or remotely operated shut-off valves, catalyze development of next-generation inspection technologies, develop industry-leading best practices, and enhance public safety partnerships with local communities, public officials, and first responders. Total natural gas consumption in PG&E's service area was 4,534 million therms for 2020 (CEC 2022c).

Butte Choice Energy Electricity Supply

The Butte County Board of Supervisors and the Chico City Council entered into a Joint Powers Authority agreement in 2019 to create the Butte Choice Energy Authority, a community choice aggregation (CCA) which would allow for the direct purchase and generation of electricity for residents and businesses. This program, called Butte Clean Energy, will provide the residents and businesses in the unincorporated areas of the county and the City of Chico with a choice for where they purchase their power.

The Butte County General Plan 2030 and the 2014 Climate Action Plan directed County staff to evaluate the feasibility of a CCA program. An increase in local interest by residents and businesses propelled the formation of the CCA primarily due to cost savings and independence in selection of sources and types of energy compared to PG&E. However, CCAs may provide an additional environmental benefit if the CCA supplies more electricity from renewable and other carbon-free sources than other providers, effectively reducing the generation and release of GHG emissions. The program is set to launch in 2023 (BCE 2022). All electricity suppled through Butte Choice Energy would be transmitted through existing PG&E power lines.

Butte County Energy Consumption

Electricity and Natural Gas

The existing electricity, natural gas, and propane demand in Butte County is shown in Table 5.6-2, *Estimated Existing Electricity and Natural Gas Demand.*

TABLE 5.6-2 ESTIMATED EXISTING ELECTRICITY AND NATURAL GAS DEMAND

Subsector	Electricity Usage (Kwh Per Year)	Natural Gas Usage (Therms Per Year)	Propane Usage (Gallons Per Year)
Residential	253,167,490	6,371,650	5,960,640
Non-Residential	153,391,250	3,897,830	N/A
Total	**406,558,740**	**10,269,480**	**5,960,640**

Source: Butte County 2021.
Notes: kWh = kilowatt-hour.

Existing Transportation Fuels

Table 5.6-3*, Existing Operation-Related Annual Fuel Usage,* shows the fuel usage associated with VMT generated under existing baseline conditions based on fuel usage data obtained from EMFAC2021, Version 1.0.2, and VMT data assumed in the Butte County 2021 CAP (Butte County 2021). VMT is based on vehicle trips beginning and ending in the county and from external/internal trips (i.e., trips that either begin or end in the county).

TABLE 5.6-3 EXISTING OPERATION-RELATED ANNUAL FUEL USAGE

	Gas		Diesel		Compressed Natural Gas		Electricity	
Scenario	VMT	Gallons	VMT	Gallons	VMT	Gallons	VMT	kWh
Existing Baseline	486,946,694	22,682,819	43,367,062	4,789,346	98,716	20,445	3,214,528	1,105,523

Source: Butte County 2021.

Note: Utilizes calendar year 2019 Butte County fuel consumption data from EMFAC2021, Version 1.0.2. and VMT data from the Butte County 2021 CAP.

VMT = vehicle miles traveled; kWh = kilowatt-hour.

5.6.2 STANDARDS OF SIGNIFICANCE

The proposed project would result in a significant energy impact if it would:

1. Result in a potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources during project construction or operation.
2. Conflict with or obstruct a State or local plan for renewable energy or energy efficiency.
3. In combination with past, present, and reasonably foreseeable projects, result in cumulative impacts with respect to energy.

5.6.3 PROPOSED GENERAL PLAN POLICIES

The following are relevant policies of the Butte County General Plan Update, which may reduce energy impacts as a result of implementation of the proposed project.

5.6.3.1 CIRCULATION ELEMENT

- **CIR-P2.1:** Carpooling shall be encouraged at major job and activity centers by providing information on how to participate in available private and public programs.
- **CIR-P2.2:** Trip reduction among County employees shall be encouraged. Specific measures to encourage trip reduction could include providing subsidies, bicycle facilities, alternative work schedules, ridesharing, telecommuting and work-at-home programs, employee education, and preferential parking for carpools/vanpools.
- **CIR-P2.3:** Home occupations shall be encouraged through streamlined application processes that are appropriate to the intensity and proposed uses of the home business.
- **CIR-P2.4:** Employers shall be encouraged to provide transit subsidies, bicycle facilities, alternative work schedules, ridesharing, telecommuting and work-at-home programs, employee education and preferential parking for carpools/vanpools.
- **CIR-P2.5:** Transportation corridors for renewable energy transmission and for new transit lines shall be preserved.

- CIR-P2.6: The County shall incorporate "Complete Streets" policies that are designed and built to accommodate pedestrians, bicyclists, and transit users.
- CIR-P3.1: The County supports improved connections to other regional transportation services, such as rail and regional/national bus lines, to connect Butte County communities with each other.
- CIR-P3.2: A continuous, integrated, and accessible pedestrian network shall be provided in urbanized areas to encourage walking as a viable transportation mode and as a form of recreation and exercise.
- CIR-P3.3: Travel modes shall be interconnected to form an integrated, coordinated, and balanced multimodal transportation system.
- CIR-P3.4: New development projects shall provide adequate pedestrian, bicycle, and multiuse facilities in a way that integrates circulation and recreational use, commensurate with the impacts of the project, local and regional plans, and consistent with surrounding development.
- CIR-P3.5: New neighborhoods shall provide bike and pedestrian connectivity between streets.
- CIR-P3.6: Arterial and collector streets shall be designed to enhance the integrity and cohesiveness of urban neighborhoods.
- CIR-P3.7: Major residential development projects shall be designed with interconnected collector street patterns and short block lengths. Cul-de-sac and dead-end streets shall conform to County design standards.
- CIR-P3.8: Public facilities shall be located and designed to allow for convenient access from public transit and/or bicycle and pedestrian facilities.
- CIR-P4.1: The County supports public transit as a viable and attractive alternative to the use of single occupant motor vehicles.
- CIR-P4.2: The County supports improved public transit service to be determined through the public process to identify unmet needs and prioritize feasible solutions. Potential improvements could include serving an expanded geographic area, more frequent buses at key times of the day, and improved transit amenities such as bus shelters.
- CIR-P4.3: The County supports public transportation programs that promote access to shopping, employment, education, health care, and recreation.
- CIR-P4.4: The County encourages the Butte County Association of Governments to provide shuttles from local transit stations to special event centers.
- CIR-P4.5: The County continues to support local Amtrak passenger services.
- CIR-P4.6: New development projects in areas served by existing or planned transit shall provide fixed transit facilities such as bus shelters and pullouts, according to expected demand and in coordination with Butte Regional Transit.
- CIR-P5.1: Bicycle facilities shall be developed in accordance with the County's adopted Bicycle Master Plan.

- CIR-P5.2: New bicycle routes and paths shall create a bicycle environment that minimizes harm when people ride.
- CIR-P5.3: The bicycle system shall be integrated with other transportation modes by connecting bicycle routes and transit stops, providing secure bicycle parking facilities and supporting efforts to expand accommodation of bicycles aboard buses.
- CIR-P5.4: Transportation service providers shall be encouraged to incorporate bicycle storage facilities into bus stops and rail stations.
- CIR-P5.5: Construction or expansion of major arterials shall incorporate Class II bicycle facilities whenever feasible. Class III Bike routes will be considered where appropriate.
- CIR-P5.6: Residential development projects shall incorporate internal circulation networks that encourage bicycle use and that connect to the external bicycle circulation system.
- CIR-P5.7: Owners of apartment complexes and major commercial, office, industrial, and educational sites shall provide plentiful, convenient, and centrally located bicycle parking facilities.
- CIR-P5.8: All County facilities and park-and-ride lots shall provide appropriate bicycle amenities, including bicycle racks and storage facilities.

5.6.3.2 CONSERVATION AND OPEN SPACE ELEMENT

- COS-P2.1: County staff shall work cooperatively with the municipalities to ensure consistent standards for green building codes and other methods to reduce greenhouse gas emissions throughout the county.
- COS-P2.2: New development shall comply with Green Building Standards adopted by the California Building Standards Commission at the time of building permit application, including requirements about low- or no-toxicity building materials.
- COS-P2.3: All new County buildings and major renovations designed for public access and/or primary workspace shall meet, at a minimum, LEED-Silver or equivalent and the County shall use these buildings to demonstrate green building practices to builders, developers, homeowners, and others. Minor buildings of an accessory nature that are not used as public spaces and that do not serve as a primary workspace are not required to meet LEED-Silver or equivalent, but shall implement practical building design, construction, and maintenance solutions as set forth under the LEED rating system or equivalent.
- COS-P2.4: All new subdivisions and developments should meet green planning standards such as LEED for Neighborhood Design.
- COS-P2.5: The County shall work with property owners and property management groups to increase overall building electrification and adoption of modern, efficient appliances in residential rental properties.
- COS-P3.1: The expansion and increased efficiency of hydroelectric power plants in the county is encouraged, provided that such plants can be expanded and that significant adverse environmental impacts associated with such plants can be successfully mitigated.

- COS-P3.2: The development of renewable energy sources in the county shall be encouraged, provided that such fuel sources can be built or expanded and that significant adverse environmental impacts associated with such development can be successfully mitigated.
- COS-P3.3: The County supports the introduction and implementation of Butte Choice Energy, the County's community choice aggregation program.
- COS-P3.4: The County shall promote and incentivize small-scale, on-site renewable energy and storage systems for existing residential units, nonresidential buildings, and in the agricultural sector.
- COS-P3.5: The County supports efforts to increase renewable and carbon-free energy generation, including wind, solar, and biomass, and to ensure customer access to such renewable energy.
- COS-P3.7: Alternative energy sources such as solar shall continue to be used for County facilities, which set an example for others to follow.
- COS-P3.8: Wind power generation facilities, solar power generation facilities, and other alternative energy facilities shall be encouraged in all General Plan land use designations, consistent with zoning provided that significant adverse environmental impacts associated with such development can be successfully mitigated. All new proposed energy projects shall be compatible with the Military Operations Areas (MOAs) shown on Figure LU-4.
- COS-P4.1: The County shall continue efforts to promote energy conservation and efficiency opportunities for all residents, building/property owners, and renters, including support and promotion of programs for lower- income and disadvantaged populations.
- COS-P4.2: The County shall continue efforts to promote energy conservation and efficiency opportunities for all nonresidential uses, including County facilities, office space, commercial space, and industrial space.
- COS-P4.3: Energy efficiency and reduction efforts of local businesses, including agricultural businesses, shall be promoted and encouraged.
- COS-P4.4: The County shall coordinate with Pacific Gas and Electric Company (PG&E) and other utility providers to promote programs that reduce energy demand.
- COS-P4.6: The County shall work with property owners and property management groups to increase overall building electrification of new and existing development, and adoption of modern, efficient appliances in residential rental properties.
- COS-P4.7: Site and structure designs for new development projects shall maximize energy efficiency.

5.6.3.3 ECONOMIC DEVELOPMENT UPDATE

- ED-P2.7: The County supports programs and projects that utilize agricultural by-products for "green" building material production and/or renewable energy production, such as using straw bales for building or converting rice straw to biofuels.

5.6.3.4 ENVIRONMENTAL JUSTICE ELEMENT

- EJ-P5.4: The County shall support efforts to retrofit existing housing units in Communities of Opportunity with improvements that reduce indoor air and noise pollution and improve energy efficiency.

5.6.3.5 HEALTH AND SAFETY ELEMENT

- HS-P19.1: The County supports physical infrastructure that encourages active transportation, such as bike paths, walking paths, and trails to promote public health.
- HS-P19.2: The County shall promote opportunities for physical activities, such as walking and biking, and encourage patterns of new development that promote physical activity and encourage bicycling, walking, and transit.
- HS-P21.1: The County supports the development of community and neighborhood microgrids that use renewable energy sources, including energy storage, which can provide sustainable and reliable electricity supply that is not shut off during PSPS events.

5.6.3.6 LAND USE ELEMENT

- LU-P3.1: The County shall encourage housing that meets the needs of the local workforce, jobs that are suitable for local residents, and programs that reduce commuting and improve opportunities to live and work in the same community.
- LU-P3.3: Newly-developed neighborhoods shall include parks and recreation facilities. Sidewalks, bike paths, and other routes shall provide circulation to surrounding areas.
- LU-P4.3: Generally, higher density housing shall be along collector and arterial streets and within easy walking distance of public facilities.
- LU-P8.5: Stores providing goods and services to support daily life in neighborhoods should be within walking distance to the majority of neighborhoods.
- LU-P8.6: The County shall encourage the construction of housing near employment centers, along with additional employment-generating uses near areas that are primarily residential.
- LU-P8.7: Land use patterns and development shall support the State's ability to achieve its vehicle miles traveled (VMT) and greenhouse gas (GHG) reduction goals, and the County's own VMT thresholds of significance.

5.6.4 IMPACT DISCUSSION

ENE-1	The project would not result in a significant environmental impact from wasteful, inefficient, or unnecessary consumption of energy resources during project construction or operation.

General Plan Update

Short-Term Construction Impacts

Development projects constructed under the General Plan Update would create temporary demands for electricity. Natural gas is not generally required to power construction equipment, and therefore is not anticipated during construction phases. Electricity use would fluctuate according to the phase of construction. Additionally, it is anticipated that most electric-powered construction equipment would be hand tools (e.g., power drills, table saws, compressors) and lighting, which would result in minimal electricity usage during construction activities.

Development projects would also temporarily increase demands for energy associated with transportation. Transportation energy use depends on the type and number of trips, VMT, fuel efficiency of vehicles, and travel mode. Energy use during construction would come from the transport and use of construction equipment, delivery vehicles and haul trucks, and construction employee vehicles that would use diesel fuel or gasoline. The use of energy resources by these vehicles would fluctuate according to the phase of construction and would be temporary. It is anticipated that most off-road construction equipment, such as those used during demolition and grading, would be gas or diesel powered. In addition, all operation of construction equipment would cease upon completion of project construction.

Furthermore, the construction contractors would minimize nonessential idling of construction equipment during construction in accordance with the California Code of Regulations Title 13, Article 4.8, Chapter 9, Section 2449. Such required practices would limit wasteful and unnecessary energy consumption in development in Butte County. Moreover, future development projects within the County would be similar to the construction processes of any current development projects within Butte County. Therefore, the implementation of the General Plan Update would not result in wasteful, inefficient, or unnecessary consumption of fuel use during construction.

Level of Significance Before Mitigation: ENE-1 would be less than significant.

Mitigation Measures

No mitigation measures are required.

Long-Term Operation Impacts

Non-transportation Energy

The General Plan Update would allow new development within Butte County, providing for a range of land uses with varying energy needs. Table 5.6-4, *Year 2040 Forecast Electricity Consumption*, shows the forecast electricity demand for Butte County with implementation of the General Plan Update under horizon year 2040 conditions. As shown, total electricity demand associated with Butte County would increase by 120,517,960 kWh per year (kWh/yr), or 30 percent, under horizon year 2040 conditions compared to existing conditions.

TABLE 5.6-4 YEAR 2040 FORECAST ELECTRICITY CONSUMPTION

	Electricity Usage (kWh per year)		
Scenario	Existing Baseline	Year 2040 Forecast	Net Change
Residential	253,167,490	356,544,930	103,377,440
Non-residential	153,391,250	170,531,770	17,140,520
Total	**406,558,740**	**527,076,700**	**120,517,960**

Source: Butte County 2021.
Note: kWh = kilowatt-hour.

As shown in Table 5.6.5, *Year 2040 Forecast Natural Gas Consumption*, natural gas use in Butte County would increase by 2,534,620 therms annually, or approximately 28 percent, from existing conditions to a total of 11,572,980 therms per year.

TABLE 5.6-5 YEAR 2040 FORECAST NATURAL CONSUMPTION

	Natural Gas Usage (Therms per year)		
Scenario	Existing Baseline	Year 2040 Forecast	Net Change
Residential	5,140,530	7,239,590	2,099,060
Non-Residential	3,897,830	4,333,390	435,560
Total	**9,038,360**	**11,572,980**	**2,534,620**

Source: Butte County 2021.

Table 5.6-6, *Year 2040 Forecast Propane Consumption*, shows the forecasted propane demand for Butte County. As shown, total propane demand associated with Butte County would increase by 120,517,960 kWh/yr, or 30 percent, under horizon year 2040 conditions compared to existing conditions.

TABLE 5.6-6 YEAR 2040 FORECAST PROPANE CONSUMPTION

	Propane Usage (Gallons per year)		
Scenario	Existing Baseline	Year 2040 Forecast	Net Change
Residential	6,371,650	8,973,430	2,601,780

Source: Butte County 2021.

Electricity, natural gas, and propane demand for Butte County would increase compared to existing conditions due to the anticipated growth under the General Plan Update. However, developments accommodated under the General Plan Update would be required to comply with the current and future updates to the Building Energy Efficiency Standards and CALGreen, which would contribute in reducing the energy demands and increasing energy efficiency. New and replacement buildings in compliance with these standards would generally have greater energy efficiency than existing buildings. It is anticipated that each update to the Building Energy Efficiency Standards and CALGreen would result in greater building energy efficiency and move closer toward buildings achieving zero net energy.

In addition to the energy conservation efforts under Title 24, the General Plan Update includes the following policies and actions pertaining to renewable energy generation and energy conservation:

- COS-P2.3: All new County buildings and major renovations designed for public access and/or primary workspace shall meet, at a minimum, LEED-Silver or equivalent and the County shall use these buildings to demonstrate green building practices to builders, developers, homeowners, and others. Minor buildings of an accessory nature that are not used as public spaces and that do not serve as a primary workspace are not required to meet LEED-Silver or equivalent, but shall implement practical building design, construction, and maintenance solutions as set forth under the LEED rating system or equivalent.
- COS-P2.4: All new subdivisions and developments should meet green planning standards such as LEED for Neighborhood Design.
- COS-P2.5: The County shall work with property owners and property management groups to increase overall building electrification and adoption of modern, efficient appliances in residential rental properties.
- COS A2.3: Explore and adopt, as feasible, Building Code amendments requiring replacement of natural gas space and water heaters with electric models at end of life during the 2022 and successive Buildings Standards Code updates.
- COS-P3.2: The development of renewable energy sources in the county shall be encouraged, provided that such fuel sources can be built or expanded and that significant adverse environmental impacts associated with such development can be successfully mitigated.
- COS-P3.3: The County supports the introduction and implementation of Butte Choice Energy, the County's community choice aggregation program.
- COS-P3.4: The County shall promote and incentivize small-scale, on-site renewable energy and storage systems for existing residential units, nonresidential buildings, and in the agricultural sector.
- COS-P3.5: The County supports efforts to increase renewable and carbon-free energy generation, including wind, solar, and biomass, and to ensure customer access to such renewable energy.
- COS-P3.7: Alternative energy sources such as solar shall continue to be used for County facilities, which set an example for others to follow.
- COS-P3.8: Wind power generation facilities, solar power generation facilities, and other alternative energy facilities shall be encouraged in all General Plan land use designations, consistent with zoning provided that significant adverse environmental impacts associated with such development can be successfully mitigated. All new proposed energy projects shall be compatible with the Military Operations Areas (MOAs) shown on Figure LU-4.
- COS-P4.1: The County shall continue efforts to promote energy conservation and efficiency opportunities for all residents, building/property owners, and renters, including support and promotion of programs for lower- income and disadvantaged populations.
- COS-P4.2: The County shall continue efforts to promote energy conservation and efficiency opportunities for all nonresidential uses, including County facilities, office space, commercial space, and industrial space.

- **COS-P4.3:** Energy efficiency and reduction efforts of local businesses, including agricultural businesses, shall be promoted and encouraged.
- **COS-P4.4:** The County shall coordinate with Pacific Gas and Electric Company (PG&E) and other utility providers to promote programs that reduce energy demand.
- **COS-P4.6:** The County shall work with property owners and property management groups to increase overall building electrification of new and existing development, and adoption of modern, efficient appliances in residential rental properties.
- **COS-P4.7:** Site and structure designs for new development projects shall maximize energy efficiency.
- **COS-A4.1:** Continue to participate in available and future programs to provide low-cost financing for energy retrofits throughout Butte County.
- **COS-A4.2:** Pursue grants to address existing energy inefficiencies in County facilities.
- **COS-A4.3:** Consider giving preference to renewable energy for County purchases when feasible.

Transportation Energy

The growth accommodated under the General Plan Update would consume transportation energy from the use of motor vehicles (e.g., gasoline, diesel, compressed natural gas, and electricity). Table 5.6-7, *Operation-Related Annual Fuel Usage: Net Change from Existing,* shows the net change in VMT, fuel usage, and fuel efficiency under horizon year 2040 General Plan Update conditions from existing baseline year 2019 conditions and existing uses under year 2040 conditions.

TABLE 5.6-7 OPERATION-RELATED ANNUAL FUEL USAGE: NET CHANGE FROM EXISTING

Fuel Type	Existing Baseline Year 2019[1]	Existing Year 2040[1]	Project Horizon Year 2040	Net Change from Existing Baseline Year 2019	Net Change from Existing Year 2040
Gasoline					
VMT[2]	486,946,694	441,100,496	564,731,303	77,784,609	123,630,807
Gallons	22,682,819	14,213,937	18,197,793	(4,485,026)	3,983,855
Miles Per Gallon	21.47	31.03	31.03	9.57	0
Diesel					
VMT[2]	43,367,062	33,266,923	42,590,931	(776,149)	9,323,990
Gallons	4,795,846	3,921,910	5,021,136	225,289	1,099,226
Miles Per Gallon	9.04	8.48	8.48	(0.56)	0
Compressed Natural Gas					
VMT[2]	98,716	142,246	182,115	83,399	39,869
Gallons	20,445	25,261	32,341	11,896	7,080
Miles Per Gallon	4.83	5.63	5.63	0.80	0
Electricity					
VMT[2]	3,214,528	59,117,335	75,686,629	72,472,101	16,569,294
kWh	1,105,523	18,388,849	23,542,840	22,437,317	5,153,992
Miles Per kWh	2.91	3.21	3.21	0.31	0
Total VMT	**533,627,000**	**533,627,000**	**683,190,960**	**149,563,960**	**149,563,960**

Source: EMFAC2021 Version 1.0.2.

Notes: VMT = vehicle miles traveled; kWh = kilowatt-hour.

1 Represents existing uses as they currently exist in baseline year 2019 and operating under year 2040 conditions.

2 Based on VMT data utilized for the Butte County 2021 CAP.

As shown in Table 5.6-7, when compared to existing baseline year 2019 conditions, the General Plan Update would result in an increase in VMT for gasoline-, compressed natural gas-, and electric-powered vehicles. Although annual VMT would increase for gasoline-powered vehicles by 77,784,609 miles per year (mi/yr), total gasoline fuel usage would decrease and fuel efficiency would increase. For electric-powered vehicles, annual VMT would increase by 72,472,101 mi/yr and annual consumption would increase by 22,437,317 kWh. However, efficiency would increase by 0.31 mile per kWh (mi/kWh). Similarly, while VMT and fuel consumption for vehicles powered by compressed natural gas (CNG) would increase, fuel efficiency for these vehicles would also improve in year 2040. The decrease in fuel usage for gasoline-powered vehicles and large increase in VMT and fuel usage for electric-powered vehicles are primarily based on the assumption in EMFAC that a greater mix of light-duty automobiles would be electric-powered in future years based on regulatory (e.g., Advanced Clean Cars) and consumer trends.

For diesel-powered vehicles, overall VMT would decrease by 776,149 mi/yr while anticipated fuel consumption would increase by 225,289 gallons per year (g/yr). While the total overall efficiency is shown to decrease by 0.56 mpg, as shown in Table 5.6-8, *EMFAC 2021 Fuel Efficiency of Diesel Vehicles*, fuel efficiency as assumed in EMFAC2021 would generally increase across the various vehicle categories. The

primary factor for the overall decrease is due to the general assumption in EMFAC2021 that VMT for diesel-powered heavy-heavy duty trucks (i.e., T7 vehicle category), which is less efficient than other diesel-powered vehicles, would increase, while VMT for other diesel vehicles with better fuel efficiency would decrease. Thus, while the fuel efficiency would generally improve for diesel vehicles, the average in overall fuel efficiency of diesel vehicles is lower under horizon year 2040 conditions when weighed against the increase in diesel-powered heavy-heavy duty truck VMT.

TABLE 5.6-8 EMFAC2021 FUEL EFFICIENCY OF DIESEL VEHICLES

EMFAC 2021 Vehicle Category	Year 2019			Year 2040			Net Change in Miles Per Gallon
	VMT Per Day	Gallons Per Day	Miles Per Gallon	VMT Per Day	Gallons Per Day	Miles Per Gallon	
All other buses	2,747	336	8.17	3,304	346	9.54	1.37
LDA	15,545	378	41.13	2,224	42	52.59	11.46
LDT1	216	9	23.96	2	0	30.07	6.10
LDT2	3,333	112	29.73	5,710	142	40.11	10.38
LHD1	264,871	16,704	15.86	65,434	4,051	16.15	0.30
LHD2	70,614	5,501	12.84	27,171	1,972	13.78	0.94
MCY	0	0	0	0	0	0	0
MDV	27,519	1,163	23.67	10,842	366	29.59	5.92
MH	3,291	353	9.33	1,663	179	9.27	(0.05)
Motor coach	1,023	185	5.52	1,139	182	6.25	0.73
OBUS	0	0	0	0	0	0	0
PTO	3,826	821	4.66	3,184	558	5.70	1.04
SBUS	3,642	462	7.88	2,587	290	8.91	1.04
T6	72,169	8,862	8.14	63,056	6,731	9.37	1.22
T7	325,348	56,578	5.75	430,412	58,665	7.34	1.59
UBUS	3,266	408	8.00	325	35	9.19	1.19

Source: EMFAC2021 Version 1.0.2.
Note: Based on EMFAC2021, V1.0.2., data for Butte County.
VMT = vehicle miles traveled.

Compared to existing uses under year 2040 conditions, the General Plan Update would result in an increase in VMT and fuel usage for all fuel types (see "Net Change from Existing Year 2040" column of Table 5.6-7). However, the fuel efficiency would be the same, and implementation of the General Plan Update would not result in less fuel efficiency across the various fuel types.

The increases in VMT as shown in Table 5.6-7 would be primarily attributable to the overall growth associated with the General Plan Update. While VMT and fuel usage would generally increase from implementation of the General Plan Update, as shown in the tables above, the fuel efficiency of vehicles for all fuel types under year 2040 conditions would improve compared to baseline year 2019. The improvement would be attributable to regulatory compliance (e.g., CAFE standards) that trend toward producing cars that are more fuel efficient and the natural turnover of older, less-fuel-efficient vehicles for newer, more-fuel-

efficient vehicles. The CAFE standards are not directly applicable to residents or land use development projects, but to car manufacturers. Thus, residents and employees of the Butte County do not have direct control in determining the fuel efficiency of vehicles manufactured and that are made available. However, compliance with the CAFE standards by car manufacturers would ensure that vehicles produced in future years have greater fuel efficiency and would generally result in an overall benefit of reducing fuel usage by providing the population of the Butte County more fuel-efficient vehicle options.

Although VMT associated with electric vehicles (EV) and thus electricity usage would increase under the with-project horizon year 2040 scenario when compared to existing baseline, it is also anticipated that EVs will improve in energy efficiency. In conjunction with the regulatory (i.e., RPS, SB 350, SB 100, SB 1020) and general trend toward increasing the supply and production of energy from renewable sources, it is anticipated that a greater share of electricity used to power EVs will be from renewable sources in future years (e.g., individual photovoltaic systems, purchased electricity from a CCA such as Butte Choice Energy, and/or purchased electricity from PG&E that is generated from renewable sources).

In addition to regulatory compliance that would contribute to more fuel-efficient vehicles and less demand in fuels, the General Plan Update includes the following policies and actions that could contribute to reducing fuel consumption by reducing single passenger vehicle trips and VMT, reducing vehicle idling, supporting the transition to low and zero-emission vehicles, and increasing active and public transit infrastructure:

- COS-P1.7: New development projects shall provide electric vehicle charging stations and prioritized parking for electric vehicles, hybrid vehicles, alternative fuel vehicles and carpools.
- COS-A1.2: Continue to update the County program to replace County fleet vehicles with the lowest emission technology vehicles, wherever possible, including landscaping and other equipment.
- COS-A1.4: Coordinate with the Butte County Air Quality Management District on anti-idling programs that will reduce idling by heavy duty vehicles.
- COS-A1.5: Cooperate with the school districts to develop school access plans that substantially reduce automobile trips to, and congestion surrounding, schools. Each District's School Access Plan could address necessary infrastructure improvements, potential funding sources, replacing older diesel buses with low or zero-emission vehicles, and mitigation fees to expand school bus service.
- COS-P5.7: The County shall cooperate with Butte County Air Quality Management District in efforts to reduce traffic-related emissions below levels that violate national ambient air quality standards in Butte County.
- LU-P3.1: The County shall encourage housing that meets the needs of the local workforce, jobs that are suitable for local residents, and programs that reduce commuting and improve opportunities to live and work in the same community.
- LU-P3.3: Newly-developed neighborhoods shall include parks and recreation facilities. Sidewalks, bike paths, and other routes shall provide circulation to surrounding areas.
- LU-P4.3: Generally, higher density housing shall be along collector and arterial streets and within easy walking distance of public facilities.

- LU-P8.5: Stores providing goods and services to support daily life in neighborhoods should be within walking distance to the majority of neighborhoods.
- LU-P8.6: The County shall encourage the construction of housing near employment centers, along with additional employment-generating uses near areas that are primarily residential.
- LU-P8.7: Land use patterns and development shall support the State's ability to achieve its vehicle miles traveled (VMT) and greenhouse gas (GHG) reduction goals, and the County's own VMT thresholds of significance.
- CIR-P2.1: Carpooling shall be encouraged at major job and activity centers by providing information on how to participate in available private and public programs.
- CIR-P2.2: Trip reduction among County employees shall be encouraged. Specific measures to encourage trip reduction could include providing subsidies, bicycle facilities, alternative work schedules, ridesharing, telecommuting and work-at-home programs, employee education, and preferential parking for carpools/vanpools.
- CIR-P2.4: Employers shall be encouraged to provide transit subsidies, bicycle facilities, alternative work schedules, ridesharing, telecommuting and work-at-home programs, employee education and preferential parking for carpools/vanpools.
- CIR-P2.5: Transportation corridors for renewable energy transmission and for new transit lines shall be preserved.
- CIR-P2.6: The County shall incorporate "Complete Streets" policies that are designed and built to accommodate pedestrians, bicyclists, and transit users.
- CIR-A2.1: Prepare, adopt, and maintain a VMT environmental threshold and development project screening process.
- CIR-P3.1: The County supports improved connections to other regional transportation services, such as rail and regional/national bus lines, to connect Butte County communities with each other.
- CIR-P3.2: A continuous, integrated, and accessible pedestrian network shall be provided in urbanized areas to encourage walking as a viable transportation mode and as a form of recreation and exercise.
- CIR-P3.3: Travel modes shall be interconnected to form an integrated, coordinated, and balanced multimodal transportation system.
- CIR-P3.4: New development projects shall provide adequate pedestrian, bicycle, and multiuse facilities in a way that integrates circulation and recreational use, commensurate with the impacts of the project, local and regional plans, and consistent with surrounding development.
- CIR-P3.5: New neighborhoods shall provide bike and pedestrian connectivity between streets.
- CIR-P3.6: Arterial and collector streets shall be designed to enhance the integrity and cohesiveness of urban neighborhoods.

- CIR-P3.7: Major residential development projects shall be designed with interconnected collector street patterns and short block lengths. Cul-de-sac and dead-end streets shall conform to County design standards.
- CIR-P3.8: Public facilities shall be located and designed to allow for convenient access from public transit and/or bicycle and pedestrian facilities.
- CIR-A3.1: In conjunction with the Butte County Association of Governments, seek funding to develop a plan to support and promote rail service that will connect Butte County with other regions and connect Butte County communities with each other.
- CIR-P4.1: The County supports public transit as a viable and attractive alternative to the use of single occupant motor vehicles.
- CIR-P4.2: The County supports improved public transit service to be determined through the public process to identify unmet needs and prioritize feasible solutions. Potential improvements could include serving an expanded geographic area, more frequent buses at key times of the day, and improved transit amenities such as bus shelters.
- CIR-P4.3: The County supports public transportation programs that promote access to shopping, employment, education, health care, and recreation.
- CIR-P4.4: The County encourages the Butte County Association of Governments to provide shuttles from local transit stations to special event centers.
- CIR-P4.5: The County continues to support local Amtrak passenger services.
- CIR-P4.6: New development projects in areas served by existing or planned transit shall provide fixed transit facilities such as bus shelters and pullouts, according to expected demand and in coordination with Butte Regional Transit.
- CIR-A4.1: Support efforts by the Butte County Association of Governments to evaluate alternate sources of funding for public transit, such as advertising revenue from buses and bus shelters.
- CIR-P5.1: Bicycle facilities shall be developed in accordance with the County's adopted Bicycle Master Plan.
- CIR-P5.2: New bicycle routes and paths shall create a bicycle environment that minimizes harm when people ride.
- CIR-P5.3: The bicycle system shall be integrated with other transportation modes by connecting bicycle routes and transit stops, providing secure bicycle parking facilities and supporting efforts to expand accommodation of bicycles aboard buses.
- CIR-P5.4: Transportation service providers shall be encouraged to incorporate bicycle storage facilities into bus stops and rail stations.
- CIR-P5.5: Construction or expansion of major arterials shall incorporate Class II bicycle facilities whenever feasible. Class III Bike routes will be considered where appropriate.
- CIR-P5.6: Residential development projects shall incorporate internal circulation networks that encourage bicycle use and that connect to the external bicycle circulation system.

- CIR-P5.7: Owners of apartment complexes and major commercial, office, industrial, and educational sites shall provide plentiful, convenient, and centrally located bicycle parking facilities.
- CIR-P5.8: All County facilities and park-and-ride lots shall provide appropriate bicycle amenities, including bicycle racks and storage facilities.
- CIR-A5.1: Periodically update the Bicycle Master Plan.
- CIR-A5.2: Continue to utilize BCAG's GIS mapping database of current and proposed bicycle routes and facilities countywide.
- CIR-A5.3: Pursue sources of funding to improve and maintain the existing bicycle system and to plan and construct new bicycle facilities that encourage commuting and recreation.
- EJ-P2.1: The County shall prioritize improvements to bikeways and sidewalks that are in Communities of Opportunity to make active transportation more accessible, user friendly, and safer in these communities.
- EJ-P2.2: Where supported by the community, street lighting for public safety shall be provided, prioritizing implementation in Communities of Opportunity, particularly at parks, transit stops, bike and pedestrian paths, and along commercial corridors.
- EJ-P2.3: The County shall encourage development in Communities of Opportunity that combines employment, housing, and services close to transit facilities.
- EJ-P2.4: The County shall work with transit providers to expand the hours of transit operation, operational boundaries, convenience, and quality of transit services that connect Communities of Opportunity with educational and economic opportunities, medical services, and other needed goods and services.
- EJ-P2.5: The County shall encourage transit providers to offer small or less frequent buses on routes with low passenger demand and connections between unincorporated and incorporated bus routes, with a focus on bridging service gaps in Communities of Opportunity.
- EJ-P2.6: The County shall provide support to carpooling and vanpooling programs, particularly among Communities of Opportunity, such as by assisting with outreach and program facilitation.
- EJ-A2.1: Seek opportunities to identify and construct multi-modal improvements in Communities of Opportunity.
- EJ-P8.3: The County supports the development of high-quality, local jobs within and near Communities of Opportunity to reduce long commutes and resultant vehicle emissions.

Summary

Overall, regulatory compliance (e.g., Building Energy Efficiency Standards, CALGreen, RPS, and CAFE standards) would increase building energy efficiency and vehicle fuel efficiency and reduce building energy demand and transportation-related fuel usage. Additionally, the General Plan Update includes policies related to land use and transportation planning and design, energy efficiency, public and active transit, and renewable energy generation that would contribute to minimizing building and transportation-related energy demands overall and demands on nonrenewable sources of energy. Implementation of proposed

policies under the General Plan Update in conjunction with and complementary to regulatory requirements would ensure that energy demand associated with growth under the General Plan Update would not be inefficient, wasteful, or unnecessary. Therefore, energy impacts associated with implementation and operation of land uses accommodated under the General Plan Update would be less than significant.

Level of Significance Before Mitigation: ENE-1 would be less than significant.

Mitigation Measures

No mitigation measures are required.

Upper Ridge Community Plan

As discussed in Chapter 3, Project Description, of this DEIR, the Upper Ridge Community Plan would increase development potential in the Upper Ridge community with 28 parcels redesignated from Retail and Office to Mixed-Use land uses in the Old Magalia and Magalia Center neighborhoods.

Short-Term Construction Impacts

The short-term construction impact related to energy as discussed above for the General Plan Update would also be applicable to the URCP. Therefore, implementation of the URCP would not result in wasteful, inefficient, or unnecessary consumption of fuel use during construction.

Level of Significance Before Mitigation: ENE-1 would be less than significant.

Mitigation Measures

No mitigation measures are required.

Long-Term Operation Impacts

Non-transportation Energy

Potential future development under the URCP would consist of new development in the Magalia Center and the Old Magalia neighborhoods. As discussed above for the General Plan Update, new buildings for new land uses accommodated under the URCP would also be subject to and required to comply with the current and future editions of the Building Energy Efficiency Standards and CALGreen. Furthermore, while the previously identified policies and actions of the General Plan Update pertaining to increasing energy efficiency and/or reducing energy demand would also be applicable to the URCP, the URCP also includes the following proposed strategies, which would contribute to reducing energy demand in general and from nonrenewable resources:

- **Strategy HS-1.5:** Work with partner agencies and other organizations to secure grant funding to provide low-cost energy retrofits reducing energy use.
- **Strategy HS-2.2:** Encourage solar panels and energy storage in homes and commercial buildings to provide backup electricity supply.

- **Strategy UI-4.2:** Encourage the adoption of backup power service for residences and businesses on the Upper Ridge, including installation of rooftop solar and battery backup systems.
- **Strategy UI-4.3:** Evaluate options for providing backup power service to critical communication infrastructure. These options could include a variety of means of providing backup power, such as battery backup power with solar recharge or generator backup power.

Transportation Energy

The analysis discussed for General Plan Update pertaining to transportation energy is also applicable to the URCP. The previously identified proposed policies and actions of the General Plan Update that would contribute to minimizing VMT would also be generally applicable to the URCP. In addition, the URCP also includes the following proposed strategies that would contribute to minimizing VMT and transportation fuel use by improving the active and public transit infrastructure:

- **Strategy CIR-2.1:** Improve the shoulders of Skyway within the Plan Area, from the Coutolenc/Skyway intersection to Lake De Sabla.
- **Strategy CIR-2.2:** Support the development of plans for and implementation of the grant-funded Magalia Reservoir-Paradise Lake Loop Trail. As part of this effort, provide trailheads and connector trails from the Upper Ridge Plan's residential neighborhoods to the Loop Trail, potentially from Steiffer Road and one of the streets leading east from Holmwood Drive.
- **Strategy CIR-2.3:** Develop plans for north and south connectors to the Magalia Reservoir-Paradise Lake Loop Trail. These connectors should include a southern leg leading from Yellowstone Kelley Trail to the Loop Trail at Magalia Reservoir and a northern leg leading from Paradise Lake to Lake De Sabla. When planning this trail, ensure trailheads and connector trails from the Upper Ridge Plan's residential neighborhoods to the Loop Trail are provided.
- **Strategy CIR-2.4:** Develop plans for a new east-west trail connecting the existing Magalia Community Center to the Lakeridge Circle area, including the proposed new Lakeridge Park (see Chapter 5 for details regarding Lakeridge Park).
- **Strategy CIR 2.5:** Provide enhanced transit bus stops with improved bus stop signage, lighting, and seating at the two transit stops in each direction on Lakeridge Circle to create better access and encourage transit ridership to Magalia Center.

Summary

Overall, and for similar reasons discussed for the General Plan Update, implementation of proposed strategies of the URCP in conjunction with and complementary to regulatory requirements would ensure that energy demand associated with the URCP would not be inefficient, wasteful, or unnecessary. Therefore, energy impacts associated with implementation and operation of land uses accommodated under the URCP would be less than significant.

Level of Significance Before Mitigation: ENE-1 would be less than significant.

Mitigation Measures

No mitigation measures are required.

ENE-2	The project would not conflict with or obstruct a State or local plan for renewable energy or energy efficiency.

General Plan Update

California Renewables Portfolio Standards Program

The state's electricity grid is transitioning to renewable energy under California's RPS Program. Renewable sources of electricity include wind, small hydropower, solar, geothermal, biomass, and biogas. The RPS goals have been updated since adoption of SB 1078 in 2002. In general, California has RPS requirements of 33 percent renewable energy by 2020 (SB X1-2), 40 percent by 2024 (SB 350), 50 by 2026 (SB 100), 60 percent by 2030 (SB 100), 90 percent by 2035 (SB 1020), 95 percent by 2040 (SB 1020), and 100 percent by 2045 (SB 100). SB 100 also establishes RPS requirements for publicly owned utilities that consist of 44 percent renewable energy by 2024, 52 percent by 2027, and 60 percent by 2030. Additionally, SB 1020 requires all state agencies to procure 100 percent of electricity from renewable energy and zero-carbon resources by 2035.

The statewide RPS requirements do not directly apply to individual development projects, but to utilities and energy providers such as PG&E, whose compliance with RPS requirements would contribute to the State objective of transitioning to renewable energy. The land uses accommodated under the General Plan Update would comply with the current and future iterations of the Building Energy Efficiency Standards and CALGreen. As discussed in Impact 5.6-1, the General Plan Update includes policies such as COS-P3.2, COS-P3.4, and COS-P3.5, which would support the statewide goal of transitioning the electricity grid to renewable sources. Therefore, implementation of the General Plan Update would not conflict or obstruct implementation of California's RPS Program, and impacts would be less than significant.

Level of Significance Before Mitigation: ENE-2 would be less than significant.

Mitigation Measures

No mitigation measures are required.

Butte County 2021 Climate Action Plan

As discussed in detail under Impact GHG-2 and in Table 5.8-9, *General Plan Update URCP Consistency with the Butte County 2021 Climate Action Plan*, of this DEIR, the General Plan Update includes policies and actions that would be consistent with the energy-related goals and strategies of the Butte County 2021 CAP. Therefore, implementation of the General Plan Update would not conflict or obstruct implementation of the 2021 CAP, and impacts would be less than significant.

Level of Significance Before Mitigation: ENE-2 would be less than significant.

Mitigation Measures

No mitigation measures are required.

Upper Ridge Community Plan

California Renewables Portfolio Standards Program

The discussion above for the General Plan Update would also be applicable to the URCP. Furthermore, the URCP would include Strategy HS-2.2, UI-4.2, and UI-4.3 that would be support the RPS goals. Therefore, implementation of the URCP would not conflict or obstruct implementation of California's RPS Program, and impacts would be less than significant.

Level of Significance Before Mitigation: ENE-2 would be less than significant.

Mitigation Measures

No mitigation measures are required.

Butte County 2021 Climate Action Plan

As discussed in detail under Impact GHG-2 and in Table 5.8-9, *General Plan Update URCP Consistency with the Butte County 2021 Climate Action Plan*, of this DEIR, the URCP includes strategies that would be consistent with the energy-related goals and strategies of the Butte County 2021 CAP. Therefore, implementation of the URCP would not conflict or obstruct implementation of the 2021 CAP, and impacts would be less than significant.

Level of Significance Before Mitigation: ENE-2 would be less than significant.

Mitigation Measures

No mitigation measures are required.

5.6.5 CUMULATIVE IMPACTS

ENE-3	The proposed project, in combination with past, present, and reasonably foreseeable projects, would result in less-than-significant cumulative impacts with respect to energy.

As growth occurs throughout the Butte County region, there will be an increased demand for electricity and natural gas. The General Plan Update and URCP would avoid a significant project-level impact associated with the wasteful use of energy by implementing General Plan Update policies and actions, URCP strategies, and complying with State regulations. Similarly, other jurisdictions in the region are required to meet State Title 24 regulations regarding energy conservation. As a result, the proposed project would contribute to a less than significant cumulative impact to the wasteful, inefficient, or unnecessary use of energy.

Level of Significance Before Mitigation: ENE-3 would be less than significant.

Mitigation Measures

No mitigation measures are required.

5.6.6 REFERENCES

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5.7 GEOLOGY AND SOILS

This chapter describes the regulatory framework and existing conditions on the project site related to geology and soils and the potential impacts of the project on these resources, including paleontological resources or unique geological features.

5.7.1 ENVIRONMENTAL SETTING

5.7.1.1 REGULATORY FRAMEWORK

This section summarizes key federal, State, and local policies, programs, and regulations that apply to the geology and soils of Butte County.

Federal Regulations

Earthquake Hazards Reduction Act

The Earthquake Hazards Reduction Act of 1977 was intended to reduce the risks to life and property from future earthquakes in the United States through the establishment and maintenance of an effective earthquake hazards and reduction program. Pursuant to this act, the National Earthquake Hazards Reduction Program was established, which designates the Federal Emergency Management Agency (FEMA) as the lead agency of the program. The program provides valuable resources to guide building code requirements and planning efforts such as emergency responsibilities and seismic code standards.

Paleontological Resources Preservation, Omnibus Public Lands Act, Public Law 111-011, Title VI, Subtitle D, 2009

This legislation directs the Secretaries of the US Department of the Interior and US Department of Agriculture to manage and protect paleontological resources on federal land using "scientific principles and expertise." To formulate a consistent paleontological resources management framework, the Paleontological Resources Preservation Act (PRPA) incorporates most of the recommendations from the report of the Secretary of the Interior titled "Assessment of Fossil Management on Federal and Indian Lands" (USDI 2000). In passing the PRPA, Congress officially recognized the scientific importance of paleontological resources on some federal lands by declaring that fossils from these lands are federal property that must be preserved and protected. The PRPA codifies existing policies of the Bureau of Land Management, National Park Service, US Forest Service, Bureau of Reclamation, and US Fish and Wildlife Service, and provides the following:

- Uniform criminal and civil penalties for illegal sale and transport, and theft and vandalism of fossils from federal lands.
- Uniform minimum requirements for paleontological resource-use permit issuance (terms, conditions, and qualifications of applicants).

- Uniform definitions for “paleontological resources” and “casual collecting.”
- Uniform requirements for curation of federal fossils in approved repositories.

National Environmental Policy Act of 1969

The National Environmental Policy Act of 1969 (NEPA), as amended (Public Law [Pub. L.] 91-190, 42 United States Code [USC] 4321-4347, January 1, 1970, as amended by Pub. L. 94-52, July 3, 1975, Pub. L. 94-83, August 9, 1975, and Pub. L. 97-258 Sec. 4(b), Sept. 13, 1982) recognizes the continuing responsibility of the federal government to “preserve important historic, cultural, and natural aspects of our national heritage…” (Sec. 101 [42 USC Sec. 4321]) (#382). With the passage of the PRPA, paleontological resources are considered a significant resource and it is therefore now standard practice to include paleontological resources in NEPA studies in all instances where there is a possible impact.

Antiquities Act of 1906

The Antiquities Act of 1906 (16 USC 431-433) states, in part:

> That any person who shall appropriate, excavate, injure or destroy any historic or prehistoric ruin or monument, or any object of antiquity, situated on lands owned or controlled by the Government of the United States, without the permission of the Secretary of the Department of the Government having jurisdiction over the lands on which said antiquities are situated, shall upon conviction, be fined in a sum of not more than five hundred dollars or be imprisoned for a period of not more than ninety days, or shall suffer both fine and imprisonment, in the discretion of the court.

Although there is no specific mention of natural or paleontological resources in the act itself, or in the Act’s uniform rules and regulations (Title 43 Part 3, Code of Federal Regulations [43 CFR 3]), the term “objects of antiquity” has been interpreted to include fossils by the National Park Service, Bureau of Land Management, the US Forest Service, and other federal agencies. Permits to collect fossils on lands administered by federal agencies are authorized under this act. However, due to the large gray areas left open to interpretation due to the imprecision of the wording, agencies are hesitant to interpret this act as governing paleontological resources.

State Regulations

California Public Resources Code

Paleontological sites are protected under a wide variety of state policies and regulations in the California Public Resources Code (PRC). In addition, paleontological resources are recognized as nonrenewable resources and receive protection under the PRC and the California Environmental Quality Act (CEQA). PRC Division 5, Chapter 1.7, Section 5097.5, and Division 20, Chapter 3, Section 30244 states:

> 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.

This statute prohibits the removal, without permission, of any paleontological site or feature from lands under the jurisdiction of the state or any city, county, district, authority, or public corporation, or any agency thereof. As a result, local agencies are required to comply with PRC Section 5097.5 for their own activities, including construction and maintenance, as well as for permit actions (e.g., encroachment permits) undertaken by others. PRC Section 5097.5 also establishes the removal of paleontological resources as a misdemeanor, and requires reasonable mitigation of adverse impacts to paleontological resources from developments on public (state, county, city, and district) lands.

Alquist-Priolo Earthquake Fault Zoning Act

The Alquist-Priolo Earthquake Fault Zoning Act was passed by the California Legislature in 1972 to mitigate the hazard of surface faulting to structures. The act's main purpose is to prevent the construction of buildings used for human occupancy on the surface trace of active faults. The act addresses only the hazard of surface fault rupture and is not directed toward other earthquake hazards. According to the act, local agencies must regulate most development in fault zones established by the State Geologist. Before a project can be permitted in a designated Alquist-Priolo Earthquake Fault Zone, the city or county with jurisdiction must require a geologic investigation to demonstrate that proposed buildings would not be constructed across active faults (CDC 2019).

California Seismic Hazards Mapping Act

The 1990 Seismic Hazards Mapping Act (SHMA) 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 act states that "it is necessary to identify and map seismic hazard zones in order for cities and counties to adequately prepare the safety element of their general plans and to encourage land use management policies and regulations to reduce and mitigate those hazards to protect public health and safety." Section 2697(a) of the act additionally requires that "cities and counties shall require, prior to the approval of a project located in a seismic hazard zone, a geotechnical report defining and delineating any seismic hazard." All of Butte County has been identified as a Seismic Hazard Zone by the Seismic Hazards Mapping Program. SHMA requires responsible agencies to only approve projects within seismic hazard zones following a site-specific investigation to determine if the hazard is present, and if so, the inclusion of appropriate mitigation(s). In addition, the SHMA requires real estate sellers and agents at the time of sale to disclose whether a property is within one of the designated seismic hazard zones.

California Building Code

The California Building Code (CBC) is included in Title 24 of the California Code of Regulations and is a portion of the California Building Standards Code. Under State law, all building standards must be centralized in Title 24, otherwise they are not enforceable. The CBC incorporates the Uniform Building Code, a widely adopted model building code in the United States. This code provides minimum standards to protect property and public safety by regulating the design and construction of excavations, foundations, building frames, retaining walls, and other building elements to mitigate the effects of seismic shaking and adverse soil conditions. The CBC contains provisions for earthquake safety based on factors including occupancy type, the types of soil and rock on-site, and the strength of ground shaking with specified probability of occurring at a site.

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

CEQA requires that an environmental impact report (EIR) consider whether soils in a project area would be capable of supporting the use of septic systems. Part 6, Chapter 4.5, of the California Water Code requires owners and operators of new, rehabilitated, or leaking on-site sewage treatment systems to adopt minimum operating requirements related to siting, construction, and performance.

Regional Regulations

Regional Water Quality Control Board Basin Plan

The Central Valley Regional Water Quality Control Board (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. Mandatory requirements for the siting and design of on-site sewage disposal systems are established in the Basin Plan. Included are specific criteria related to separation distances from groundwater, setbacks to water features, soil conditions, percolation rates, special design systems, and leachfield replacement area. The Basin Plan requirements are applied by the RWQCB Redding Office only to the creation of new parcels, which is termed "Land Development." On-site system requirements for existing parcels are established in Chapter 19 of the Butte County Code.

Local Regulations

Butte County General Plan 2030

The following policies are included in the existing General Plan regarding geology and soils. The numbering is from the existing General Plan and therefore may not be consecutive.

Health and Safety Element

- Goal HS-6 Reduce risks from earthquakes.
    - HS-P6.1 Appropriate detailed seismic investigations shall be completed for all public and private development projects in accordance with the Alquist-Priolo Earthquake Fault Zoning Act.
    - HS-P6.2 Geotechnical investigations shall be completed prior to approval of schools, hospitals, fire stations and sheriff stations, as a means to ensure that these critical facilities are constructed in a way that mitigates site-specific seismic hazards.
- Goal HS-7 Reduce risks from steep slopes and landslides.
    - HS-P7.1 Site-specific geotechnical investigations shall be required to assess landslide potential for private development and public facilities projects in areas rated "Moderate to High" and "High" in Figure HS-4 or the most current available mapping.

- Goal HS-8 Reduce risks from erosion.
    - HS-P8.1 Site-specific geotechnical investigations shall be required to assess erosion potential for private development projects and public facilities in areas rated "Very High" in Figure HS-7 or the most current available mapping.
- Goal HS-9 Reduce risks from expansive soils.
    - HS-P9.1 Site-specific geotechnical investigations shall be required to assess risks from expansive soils for private development projects and public facilities in areas rated "High" in Figure HS-8 or the most current available mapping.
- Goal HS-10 Avoid subsidence from groundwater withdrawal.
    - HS-P10.1 Continue to work with water providers and regulatory agencies to ensure that groundwater withdrawals do not lead to subsidence problems.
    - HS-P10.1 Existing programs to monitor potential subsidence activity shall be supported.

Upper Ridge Community Plan

The following policies are included in the existing Upper Ridge Community Plan regarding geology and soils. The numbering is from the plan and therefore may not be consecutive.

Hazard Risk Reduction Strategies – Geological and Seismic Hazards

- **Strategy HS-1.13:** Require landslide-resistant planning and design for new development in landslide prone areas.
    - Any development in landslide prone areas shall prepare drainage plans that direct runoff and stormwater away from potential unstable slopes.
- **Strategy HS-1.14:** Build retaining walls and use slope stabilization methods to stabilize single access roads, key roadway connectors, and trails on the Upper Ridge in landslide prone areas.
- **Strategy HS-1.15:** Support structural retrofits to the Magalia Dam to protect against dam failure and subsequent roadway failure along Skyway.

Butte County Grading Ordinance

Butte County's Grading Ordinance, most recently amended on December 8, 2009, is designed to protect the natural character and resources of Butte County from the potentially adverse impacts of grading and construction. The ordinance requires that a permit be obtained before any grading activities of over 1,000 cubic yards are performed at locations east of Highways 99, 149, and 70, where steep topography can lead to adverse impacts from grading. The grading permit requires a plan for erosion and sedimentation control and details of planned drainage structures. Permit issuance is subject to inspection by County staff during construction. Grading projects greater than 50 and less than 1,000 cubic yards that do not require a building permit or other County-issued permit, and that are not part of an agricultural operation, must submit sediment and erosion controls, a Determination of Exemption application, and associated fee to the Butte County Department of Public Works.

Butte County Wastewater Ordinance

The Butte County Division of Environmental Health is responsible for permitting and inspection of on-site wastewater systems. Butte County's Wastewater Ordinance regulates individual on-site wastewater treatment and disposal systems within unincorporated areas of the county.

To help address failing wastewater systems, and to improve the practices and requirements for new construction, the County is in the process of updating its On-Site Wastewater Ordinance. The proposed ordinance would update and replace existing regulations to be more consistent with applicable requirements of the Central Valley RWQCB Basin Plan and to incorporate other changes based on the current state of knowledge and advances in practices and technologies for on-site wastewater treatment and dispersal. In particular, the proposed ordinance would establish minimum requirements for soil suitability in the locations of proposed wastewater systems. It would also provide a broader range of treatment and dispersal technologies to overcome soil and groundwater constraints. The updated ordinance has been developed and is currently undergoing public and environmental review. It would become effective when and if adopted by the County Board of Supervisors.

Soil Conservation

The Butte County Resource Conservation District (RCD) was created in 2003 after passage of a 2002 countywide ballot measure. The RCD is a special district that is governed by a locally appointed, independent board of directors (RCDBC 2021). Erosion control management is one of the main focus areas of the Butte County RCD. The RCD also provides conservation planning assistance to landowners in cooperation with the federal Natural Resources Conservation Service (NRCS).

The County Agricultural Commissioner also advises landowners on soil conservation issues. In addition, the federal Agricultural Stabilization and Conservation Services (ASCS) and the University of California Extension Services have established erosion-reduction programs for planting trees for reforestation, planting grass for erosion stabilization, and developing small reservoirs to divert livestock away from natural riparian corridors. However, these projects are not mandatory, so the responsibility to protect and restore soil resources falls on the individual landowner.

On-Site Wastewater Systems Ordinance

The purpose of the Chapter 19, Onsite Wastewater Systems, of the Butte County Municipal Code, is to:

- Protect public health and the environment by protecting ground and surface water quality.
- Establish an administrative framework allowing the adoption of the science-based standards for design, construction, installation, operation, maintenance, monitoring, replacement, alteration, enlargement, repair and abandonment of onsite wastewater treatment, conveyance, and dispersal systems.
- Provide for compliance and enforcement of a comprehensive onsite regulatory program.
- Ensure compliance with applicable standards, laws, and guidelines as adopted, and/or modified by the State Water Resources Control Board or the Central Valley RWQCB. The California Water Code requires that all dischargers of waste, including sanitary wastewater from homes, file a report of

waste discharge. The RWQCB has traditionally waived this requirement for counties that have a program for on-site wastewater systems that is compatible with the RWQCB's "Guidelines for Waste Disposal from Land Developments." The RWQCB has established appropriate procedures for handling on-site wastewater in its Basin Plan under "Guidelines for Waste Disposal from Land Developments." The requirements of this chapter are intended to comply with these guidelines and constitute a program for on-site wastewater systems that is adequately protective of water quality.

5.7.1.2 EXISTING CONDITIONS

Regional Geology

The western portion of Butte County is part of the Great Valley geomorphic province. The Great Valley province is the geologic term for the Central Valley of California, which is drained by the Sacramento River in the north and the San Joaquin River in the south. The Central Valley extends nearly 500 miles north and south, and averages about 40 miles in width between the Coast Ranges on the west and the Sierra Nevada and Cascades on the east. Geologically, the Great Valley province is characterized by great thicknesses of generally flat-lying sedimentary rocks overlain by soils that were deposited by floods or runoff. These deposits are called "alluvium." In Butte County, the soils range in thickness from a few inches near the foothills to more than 200 feet near the Sacramento River. Also, the sedimentary rocks of the Great Valley province are relatively flat and dip gently west to southwest with only minor faults and folds that run parallel to the structural trend of the valley and the Sierra Nevada.

Much of the eastern portion of Butte County is part of the Sierra Nevada geomorphic province. The Sierra foothills in Butte County are rather complex geologically and contain a wide variety of igneous, metamorphic, and sedimentary rocks. The metamorphic base rocks of the Sierra Nevada have been subjected to intense folding and faulting, which has produced an area of steeply eastwardly dipping, northwesterly striking bedrock series through the center of the Sierra. These bedrock series are bounded on both the west and east sides by zones of active or potentially active faults. In eastern Butte County, granites have been pushed into these metamorphic rocks in a process called "intrusion." The contacts between the intruded granites and the older metamorphic rocks are usually marked by faults.

The northernmost part of Butte County, near Jonesville, is part of the Cascade Range geomorphic province. This geomorphic province is characterized by major volcanoes, including Mount Lassen. Lava flows and other volcanic deposits compose most of the surface materials in this province.

Each of these areas has a distinct geologic history. The eastern half of Butte County lies in that part of the Sierra Nevada that is made up of strongly deformed and metamorphosed rocks of Paleozoic age intruded by a granitic batholith of Mesozoic age. Large clumps of granite rock that lay under the earth until they were exposed by erosion, called plutons, probably of Cretaceous or earlier age, intrude the metamorphic rock with mineralization that often shows along the veins and seams of gold-bearing quartz that intruded the fissures and joints of the granitic rock.

From the beginning of the Cretaceous period, the upthrust rocks of the eastern half of Butte County were eroded, and the resulting rock and silt flowed down into the Sacramento Valley. In the western half of the county, the rocks of the Central Valley are primarily flat-lying Cretaceous, Eocene, and younger formations,

consisting of shale, sandstone, conglomerate, and volcanic rock that overlap the older metamorphic series. Older alluvial deposits occur as nearly flat plain deposits in the western portion of the county on the floor of the Sacramento Valley. The older alluvium consists of moderately consolidated clay, silt, and sand. Alluvium covers much of the valley floor and also occurs along many of the ancient, inactive streambeds and as the present stream channels that drain into the valley from the mountains to the east. These deposits are loose, unconsolidated, and consist of a mixture of boulders, gravel, sand, and lesser amounts of silt, and can range from 10 to 50 feet in thickness. Intermixed with the rock debris are often remnants of gold that was deposited in the mountains to the east and eroded away as the mountains thrust upward.

Seismicity

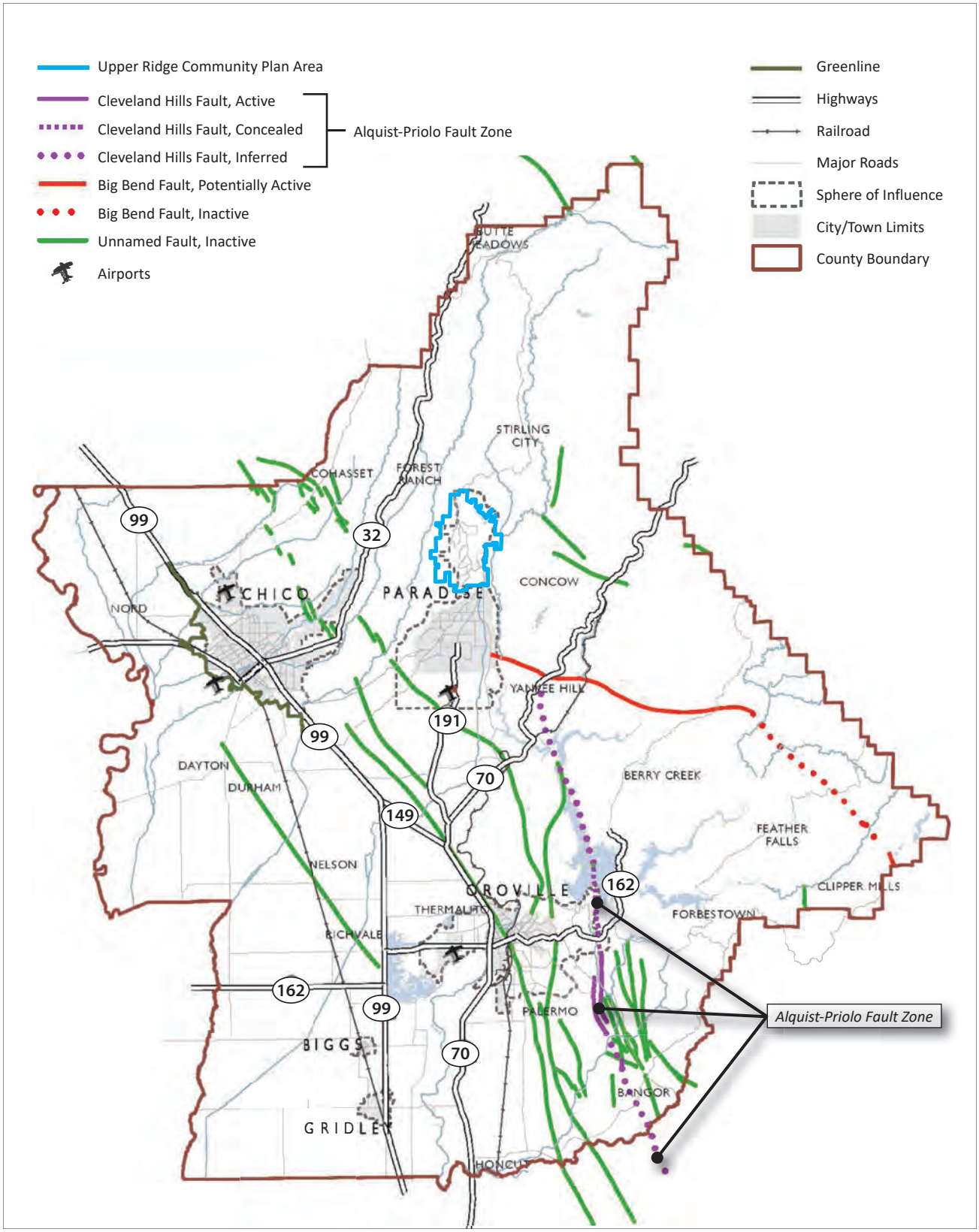
Butte County is traversed by a large number of active and inactive faults, which have the potential to shift and result in earthquakes. Faults are areas of failure within the earth where materials on either side of the failure have moved relative to one another in response to the accumulation of stress. A number of major active faults are known within the wider Butte County region, including one within the county itself. While the Sierra foothills contain literally hundreds of mapped faults, dozens of which are within Butte County, the vast majority of these faults are considered inactive.

All of Butte County has been identified as a Seismic Hazard Zone by the Seismic Hazards Mapping Program of the California Geological Survey, with the entire county potentially subject to earthquakes of Modified Mercalli Intensity (MMI) scale VIII. Only one earthquake of this intensity, the Oroville earthquake of 1975, has been recorded in Butte County. In 1984, a study published by the California Geological Survey correlated this seismic activity with the filling and emptying of Lake Oroville. The study, titled Open File Report 84-25, concluded that other earthquakes of the same or greater intensities are unlikely in Butte County.

Active Faults

An active fault is defined by the California Geological Survey as one that has had active surface displacement within Holocene time (i.e., over the past 11,000 years). Some faults are characterized as active based on surface displacements within historic time (over the last 200 years), while others are characterized as active based on surface displacements in rocks or sediments that occurred within the last 11,000 years. This definition of "active fault" does not mean that all faults for which there is no evidence of surface displacement during the Holocene are inactive. Some faults may have been active in this time period, but they did not result in changes to the surfaces that are easily identifiable. Meanwhile, other faults may still be active, although they have not been active during the Holocene period. Many damaging California earthquakes, including the 1975 Oroville earthquake, the 1983 Coalinga earthquake, and the 1987 Whittier Narrows earthquake occurred on faults not previously recognized as active. Occasionally, earthquakes occur on blind thrust faults that are buried and show no evidence of past surface rupture, as was the case with the Northridge earthquake in 1994.

The following sections describe known active faults in Butte County and the wider region. These faults are mapped in Figure 5.7-1, *Alquist-Priolo Earthquake Fault Zones*.



Source: Butte County General Plan 2030: Health and Safety Element, 2016

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Scale (Miles)

Figure 5.7-1
Alquist-Priolo Earthquake Fault Zones

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Active Faults within Butte County

As of 2022, there is only one identified active fault within Butte County, the Cleveland Hills Fault, identified pursuant to the Alquist-Priolo Act as an "earthquake fault zone." This fault was responsible for the 1975 Oroville earthquake, which had a Richter magnitude of 5.7, and was an event that produced surface displacement along approximately 2.2 miles of the fault. Ground motions corresponding to MMI VIII were experienced at Gridley and Oroville, and significant structural damage occurred to unreinforced masonry buildings in Oroville.

Geologic studies indicate that the total length of the Cleveland Hills fault is probably 11 to 15 miles. The maximum credible earthquake on this fault is believed to be about magnitude 6.5 to 6.7. An event of this magnitude would cause substantially more damage than the 1975 event. Figure 5.7-1 shows the approximate location of the Cleveland Hills Fault; the official map of the State Geologist for the Cleveland Hills "earthquake fault zone" may be consulted at the Butte County Development Services Department.

Other Active Faults

There are several known active faults outside of Butte County that have the potential to cause seismic events that could be felt within the county.

- San Andreas Fault System. The San Andreas Fault, along with related faults, such as the Hayward and Calaveras Faults, is one of the most active faults in California. Total displacement along this fault has been at least 450 miles and could possibly be as much as 750 miles. This fault system was responsible for the magnitude 8.0 San Francisco earthquake of 1906, as well as numerous other damaging earthquakes, including the 1989 Loma Prieta earthquake. At its nearest point, the San Andreas Fault is about 95 miles west of Butte County. The 1906 earthquake was strongly felt in Butte County, at approximately MMI V and VI, but there was little damage.
- Midland-Sweitzer Fault. The 80-mile-long Midland-Sweitzer Fault is approximately 40 miles southwest of Butte County. Historically, earthquakes of Richter magnitudes between 6.0 and 6.9 have occurred on or near this fault, including two strong earthquakes in 1892. Based on the fault length and the historic activity, this fault is capable of producing a maximum credible earthquake (MCE) of magnitude 7, which would be experienced in Butte County with MMI as high as VIII or IX.
- Eastern Sierra Faults. The eastern Sierra contains a number of active faults, including the Russell Valley Fault, which produced the 1966 Truckee earthquake of magnitude 6 (approximately), and several faults in the Last Chance and Honey Lake Fault zones, which have produced several magnitude 5 to 5.9 earthquakes. These fault zones are approximately 50 miles east of Butte County. Earthquakes on these faults could be experienced in Butte County with MMIs as high as VII or VIII.

Potentially Active Faults

There are a number of faults within Butte County and a large number of relatively nearby faults that could be considered potentially active. The California Geological Survey has defined potentially active faults as those for which there is evidence of surface displacement within the Quaternary period; that is, within the last 1.6 million years. Faults classified as potentially active show no evidence of surface displacements within

the past 11,000 years, but this period of time is short in geologic terms and thus such faults are considered potentially active.

Some geologists consider the Big Bend Fault zone to be potentially active. This fault could produce an MCE of magnitude 7 with an MMI of IX or X in Butte County. Intensities this high would result in major damage. The Foothills Shear Zone extends into southern Butte County. A potential quake of magnitude 7 in this zone would result in intensities as high as MMI IX in Butte County.

The Chico Monocline Fault, which extends northwest from Chico, was considered potentially active in an unpublished 1988 report by the California Division of Mines and Geology (now the California Geological Survey). Based on its length, this fault could produce an MCE of at least magnitude 7, which would cause major damage in Chico and elsewhere in Butte County. South of Butte County is a series of small faults around the Sutter Buttes and an 18-mile-long fault near Dunnigan. Earthquakes on these faults would produce only moderate ground motion in Butte County, probably not exceeding MMI VI, with little or no damage.

West of Butte County is the 40-mile-long Willows Fault, which could produce a magnitude 7 earthquake and could yield an MMI as high as VIII in Butte County (comparable to the intensity experienced during the 1975 Oroville earthquake).

The Coast Ranges Thrust Zone is approximately 35 miles west of Butte County. This fault zone could potentially produce an MCE of magnitude 8, which could be experienced in Butte County as MMI IX or X. An event of this magnitude would cause major damage to Butte County.

East and southeast of Butte County there are numerous faults in the Sierra Foothills, including the Foothills Shear Zone (which extends into Butte County), the Camel's Peak Fault, the Hawkins Valley Fault, the Melones-Dogwood Peak Fault system, the Bear Mountain Fault, and many others. Potential activity on these faults cannot be excluded from consideration, although geologists disagree on how active or inactive these faults are.

It is important to note that faults that do not meet the California Geological Survey's criteria are not necessarily permanently inactive. It is also important to recognize that seismic risk is not limited to faults that have been identified or mapped. A significant fraction of small to moderately large earthquakes occur on faults that were not previously recognized. Such earthquakes are characterized as "background seismicity" or "floating earthquakes," terms that indicate that the expected sources and locations of such earthquakes are often unknown. Based on this concept, the general geologic setting of Butte County and earthquake experience elsewhere in the Sierra foothills and Central Valley, it appears reasonable to assume that background seismicity could produce earthquakes as large as Richter magnitude 6.0 virtually anywhere in Butte County. Such earthquakes are considered capable of producing at least moderate damage.

After the 1975 Oroville earthquake, geologists also reevaluated the earthquake hazard in the Sierra foothills region, including Butte County. It is now generally accepted that earthquakes of magnitude 6.0 or 6.5 are possible anywhere in the foothills and near the margins of the Sacramento Valley, including Butte County. Opinions differ on the possibility of larger earthquakes of magnitude 7.0 or higher. The possibility of such earthquakes along the Chico Monocline fault, in the Coast Ranges thrust zone, and along several faults in the Sierra foothills cannot be excluded from consideration. Earthquakes as large as magnitude 7.0 in these

areas would produce major damage in Butte County. Such events would probably result in MMIs of IX or X in Butte County and could result in collapses of unreinforced masonry buildings, with substantial numbers of casualties.

Ground Shaking

Ground shaking is motion that occurs as a result of energy released during faulting and is the most dangerous effect of earthquakes. Damage to structures from the ground vibrations is determined by physical characteristics of rock and soil, building materials, earthquake magnitude, distance from epicenter, and character and duration of the ground motion.

Based on the known active faults and large number of potentially active faults, all parts of Butte County are potentially subject to moderately strong ground shaking (peak ground accelerations from 10 to 20 percent gravity). The intensity of ground shaking at any specific site depends on the characteristics of the earthquake, the distance from the earthquake, and on the local geologic and soil conditions. Conservatively, ground motions as strong as those observed in Oroville during the 1975 earthquake (MMI VIII) can be expected anywhere in Butte County. More conservatively, ground motions with MMI as high as X could occur from magnitude 7 earthquakes on the Chico Monocline Fault, the Big Bend Fault, or the Foothills Shear zone. Similar intensities could be experienced in Butte County from larger earthquakes on more distant faults, such as the Coast Ranges thrust zone or Melones Fault zone.

Liquefaction Potential

Liquefaction, which may occur from strong ground shaking during earthquakes, is the transformation of a granular sediment or fill material from a solid state to a temporarily liquid state. Liquefaction is a serious hazard because buildings in areas that experience liquefaction may sink or suffer major structural damage. Liquefaction occurs in saturated soils when pore pressure exceeds the natural frictional strength between grains. This is most common in loose soils with no cohesion. As a result, the soil loses strength and starts to flow. Liquefaction is most often triggered by seismic shaking, but can also be due to improper grading, landslides, or other factors. In dry soils, seismic shaking may cause soil to settle rather than flow, a process known as densification.

Of particular concern are areas paralleling the Sacramento River that contain clean sand layers with low relative densities that are estimated to have generally high liquefaction potential. Granular layers underlying most of the remaining Sacramento Valley area of Butte County have higher relative densities and thus have moderate liquefaction potential. Clean layers of granular materials older than Holocene are of higher relative densities and are thus of low liquefaction potential. Areas of bedrock, including most of eastern Butte County, have no liquefaction potential, although localized areas of valley fill alluvium can have moderate to high liquefaction potential. Figure 5.7-2, *Liquefaction Potential,* shows areas of liquefaction potential in Butte County.

Seiches

A seiche is a periodic oscillation of a body of water such as a reservoir, river, lake, harbor, or bay resulting from seismic shaking or other causes such as landslides into a body of water. The period of the oscillation varies depending on the size of the body of water and may be several minutes to several hours. Depending

on the magnitude of the oscillations, seiches can cause considerable damage to dams, levees, and shoreline facilities. Seiches have not been recorded in any of the reservoirs in Butte County that are within the jurisdiction of the California Division of Dam Safety. However, the potential for seiches does exist in Butte County, either from landslides or from stronger earthquakes that have been experienced in historical times.

Landslides

Earthquakes may initiate landslides, particularly during the wet season, in areas of high groundwater or saturated soils. The most likely areas for earthquake-induced landslides are the same areas of high landslide potential discussed in the Geologic Hazards section.

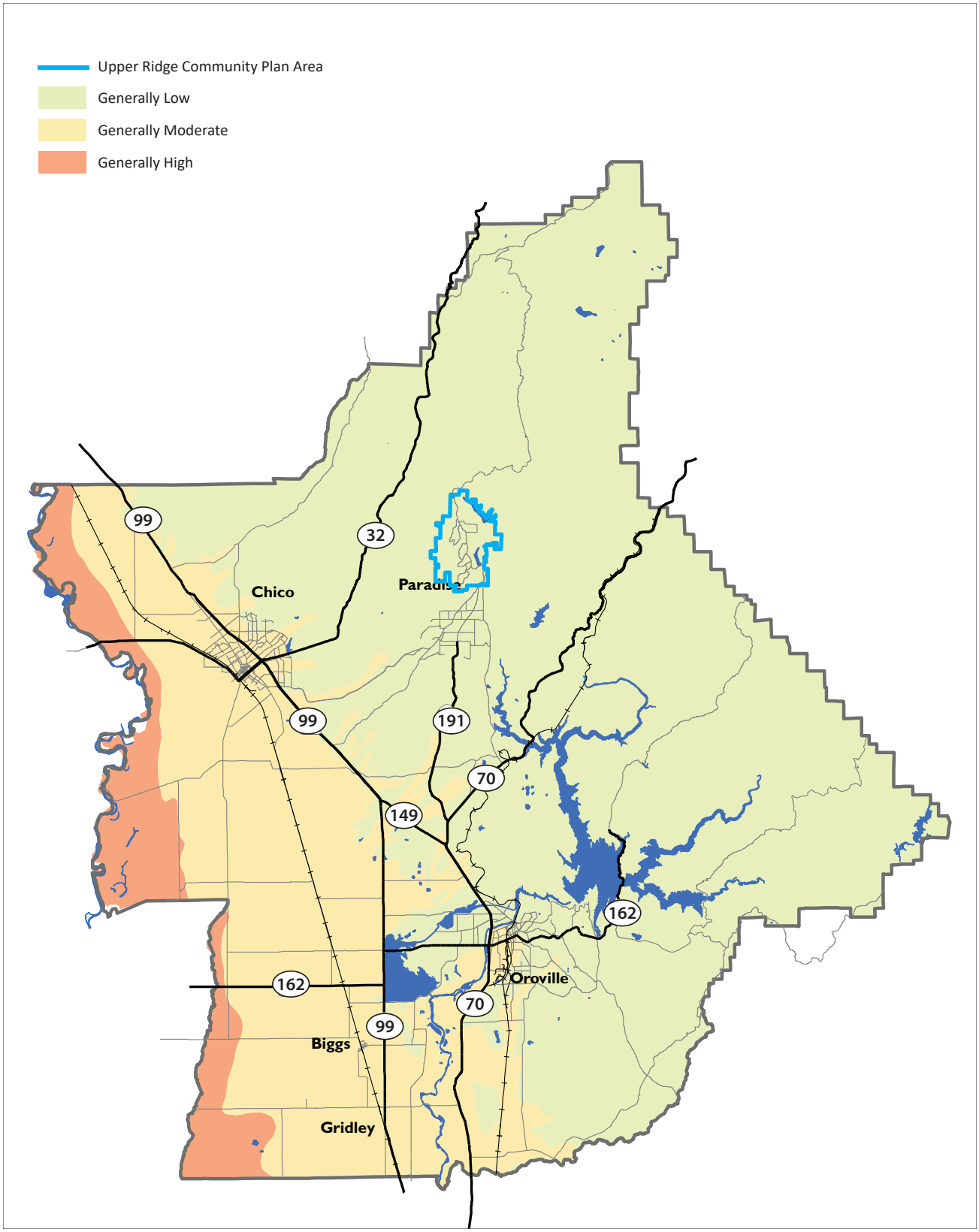
Dam Safety

Earthquakes can endanger dams in several ways, including failure of the foundations or the dams themselves due to ground failures or through secondary effects, such as seiches and landslides in the reservoir. Dam safety, including seismic safety, is discussed in Chapter 5.10, *Hydrology and Water Quality*.

Structural Damage or Collapse

The earthquake performance of structures varies considerably due to a number of factors. These include their location across active faults or in poor ground areas (e.g., landslide and liquefaction), type of construction (e.g., wood frame, unreinforced masonry, and nonductile concrete frame), magnitude and intensity of the earthquake and duration of strong ground shaking, distance from the causative faults, and similar factors. In recent history, Butte County has experienced two damaging earthquakes (1940 and 1975). Unreinforced masonry buildings in the older sections of Chico (1940) and Oroville (1975) suffered moderate to severe damage in these earthquakes.

In general, evidence from past earthquakes shows that wood-frame structures properly tied to their foundations perform very well or, if badly damaged, cause few injuries and life loss even if located in areas of poor ground quality. Older wood-frame structures that have stone, brick, or cripple wall foundations, or that are not bolted to their foundations, do not perform well. Un-reinforced masonry structures, on the other hand, perform poorly under almost all earthquake conditions, especially if located on poor ground areas. Nearby, relatively small earthquakes can be very damaging because of the sharp motions they generate. Distant events, while more damaging to taller buildings, can also damage un-reinforced masonry buildings because of the stresses caused by long-period motions. Mobile homes generally perform very well because of their lightness, but failures of their weak foundation supports (usually flimsy metal stands or concrete blocks) can produce serious damage and economic losses. Older mobile homes are also considered serious fire hazards because of the non-fire-resistant wall paneling and other materials. The performance of other structures depends on their specific characteristics, quality of construction, and other factors discussed previously.



Source: Butte County General Plan 2030 Setting & Trends Report, 2007; PlaceWorks, 2022

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Scale (Miles)

Figure 5.7-2
Liquefaction Potential

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Geologic Hazards

Erosion

Erosion is a two-step process by which soils and rocks are broken down or fragmented and then carried away. Rocks can rub against each other, fall apart, or be exposed to weather, but water causes most erosion. Wind may also be an important erosion agent. The rate of erosion depends on many variables, including the soil or rock texture and composition, the permeability of the soil, the slope, the extent of vegetative cover, and precipitation amounts and patterns. Aside from natural causes of erosion, there are anthropogenic agents that can aid in the reduction of parent material as well; in Butte County, this includes mining, logging, and cattle ranching.

Erosion increases with increasing slope, increasing precipitation, and decreasing vegetative cover. Erosion may be extremely high in areas where protective vegetation has been removed by fire, construction, or cultivation. High rates of erosion may have several negative impacts, including degradation and loss of agricultural land, degradation of streams and other water habitats, and rapid silting of reservoirs. Instability of slopes due to erosion can be a major safety hazard and thus these issues must be addressed when development or activity occurs in areas of high erosion potential.

Erosion hazard potential in Butte County is shown in Figure 5.7-3, *Erosion Potential*. This figure shows the degree of erosion that may be expected when protective vegetation is removed, as well as the level of erosion hazard according to underlying geology and rainfall.

Streambank Stability

Among the various hazards associated with the geologic setting of Butte County is the issue of streambank stability. A streambank may be considered unstable if the slopes surrounding the stream are excessively steep and present a potential landslide hazard, or if erosion is occurring at a relatively high rate. A natural riverine system functions in a state of “dynamic equilibrium” in which erosion and deposition is constantly taking place. Through this cycle, the areas surrounding the stream can become unstable, thus leading to potential for geologic hazards. Other issues associated with streambank stability involve human activity and development. Cattle ranching, logging, mining, and agriculture are some of the major anthropogenic effects that cause disequilibrium in the streams and rivers of Butte County.

Over the past few decades, regulatory measures have been taken to mitigate these effects. Ranchers are encouraged to retain water on their land to prevent excessive hoof traffic along the streambanks. Environmental impact regulations have become more stringent with regards to logging and mining in an effort to reduce near-channel and in-channel disruption. Seismic ground shaking also poses a threat to streambank stability, especially in areas where surrounding slopes are steep or where there is a large standing body of water below. Streambank stability issues present a potential for hazards along the rivers in the valley region of Butte County where erosion is concerned.

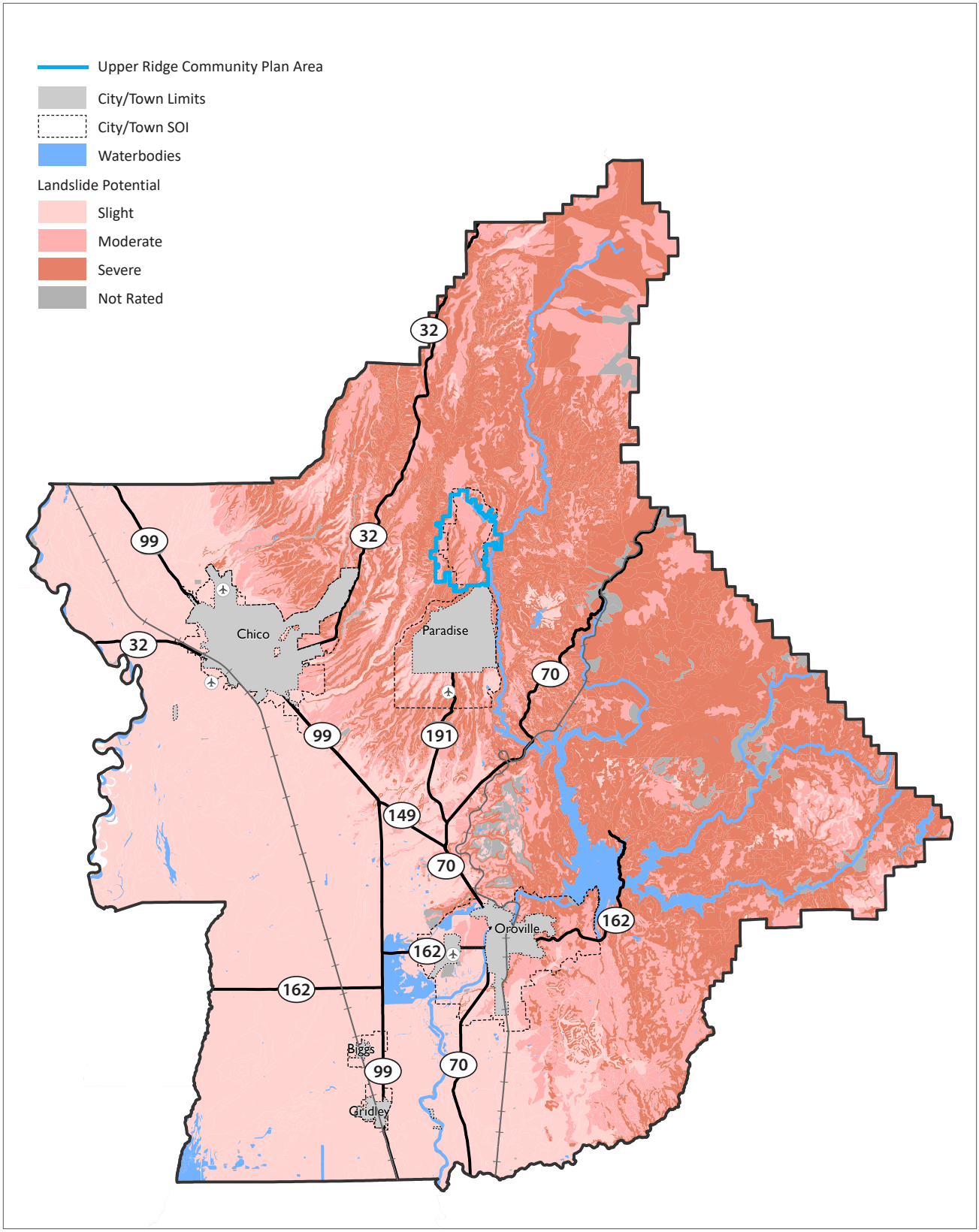
Subsidence

Subsidence is the sinking of a large area of ground surface in which the material is displaced vertically downward, with little or no horizontal movement. The California Department of Water Resources installed three devices called extensometers that have a period of record beginning in 2005 (Butte County Department of Water and Resource Conservation 2021). Extensometers are metal rods fixed into a deep well. A gauge on the rod measures how much the soil declines at the edges of the well. Thus far, results indicate no major subsidence in the wells tested in the area.

Subsidence, usually as a direct result of groundwater withdrawal or oil and gas extraction, is common in several areas of California, including parts of the Sacramento Valley and in large areas of the San Joaquin Valley. Subsidence is a greater hazard in areas where the subsurface geology includes compressible layers of silt and clay. Subsidence due to groundwater withdrawal generally affects larger areas and presents a more serious hazard than does subsidence due to oil and gas withdrawal. Nonetheless, localized subsidence due to oil and gas withdrawal has been observed at numerous locations in California, primarily in the Los Angeles basin. In portions of the San Joaquin Valley, subsidence has exceeded 30 feet over the past 50 years. In the Sacramento Valley, preliminary studies suggest that much smaller levels of subsidence, ranging from six inches to two feet, may have occurred. In most of the valley, elevation data are inadequate to determine positively if subsidence has occurred. However, groundwater pumping in the Sacramento Valley has been increasing and groundwater levels have declined in some areas, leading to an increased likelihood that subsidence has, or will become, a more significant issue.

The amount of subsidence caused by groundwater withdrawal depends on several factors, including the extent of water level decline; the thickness of the water-bearing strata tapped; the thickness and compressibility of silt-clay layers within the vertical sections where groundwater withdrawal occurs; the duration of maintained groundwater level decline; the number and magnitude of water withdrawals in a given area; and the general geology and geologic structure of the groundwater basin. The damaging effects of subsidence include gradient changes in roads, streams, canals, drains, sewers, and dikes. Many such systems are constructed with slight gradients and may be significantly damaged by even small elevation changes. Other damaging effects include damage to water wells resulting from sediment compaction and increased likelihood of flooding of low-lying areas.

Land subsidence is considered to be a potential hazard for the portions of Butte County within the Sacramento Valley. Areas of potentially significant subsidence are shown in Figure 5.7-4, *Subsidence Potential*. The greatest potential subsidence areas are where heavy groundwater withdrawal is occurring and in gas-producing areas. According to investigations by the U.S. Geological Survey, the areas of heaviest groundwater withdrawal extend about two miles north and south of Chico and in a one-mile radius around Gridley. The amount of subsidence that could take place in the county depends primarily on the amount of groundwater withdrawal. The possibility of subsidence resulting from large groundwater draw-downs during prolonged droughts is a serious concern.



Source: Butte County, 2021; PlaceWorks, 2021; USDA Soil Survey Geographic Database, 2017

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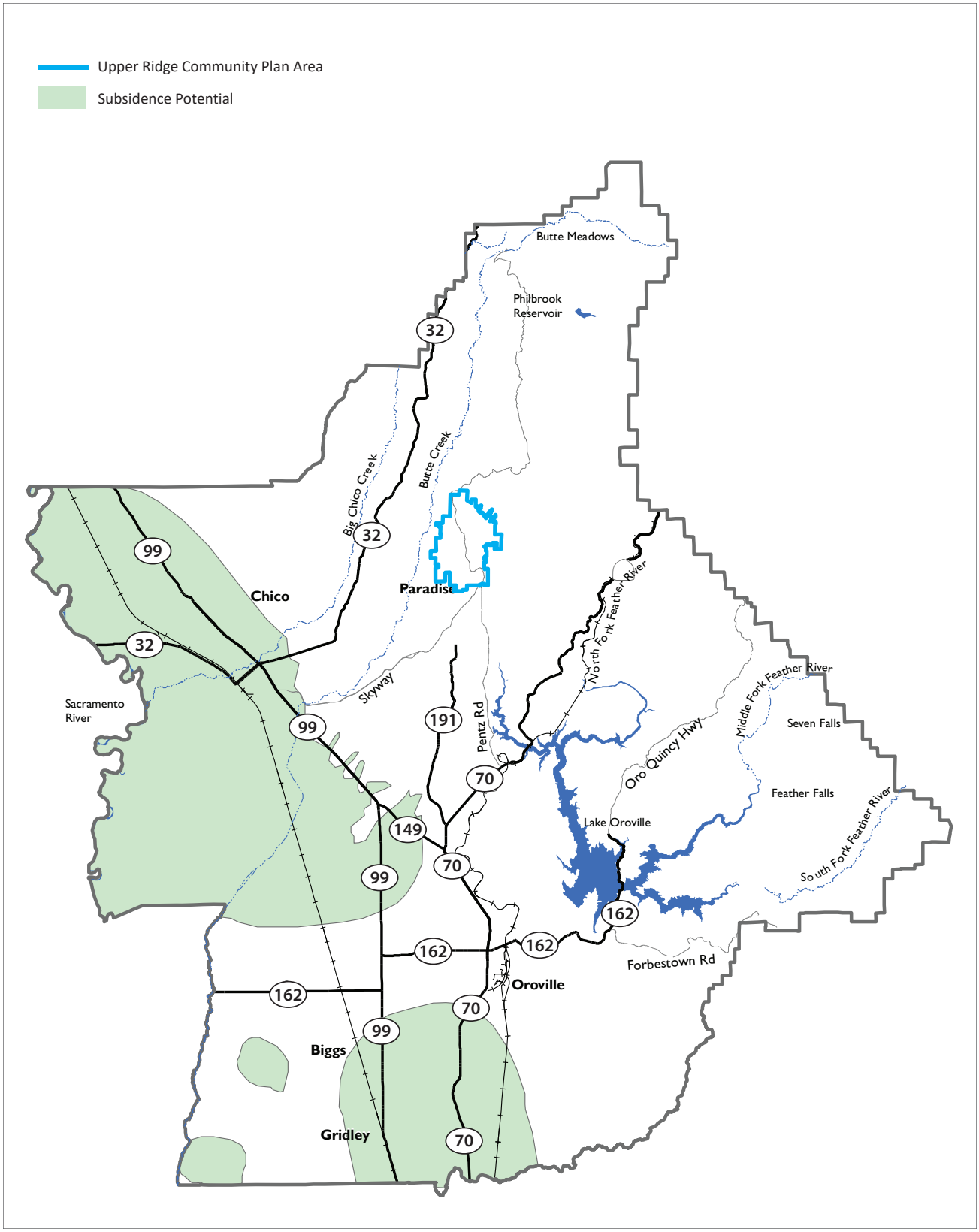
Scale (Miles)

Figure 5.7-3
Erosion Potential



Source: Butte County General Plan 2030 Setting & Trends Report, 2007; PlaceWorks, 2022

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Scale (Miles)

Figure 5.7-4
Subsidence Potential

Landslides

Landslides are downward and outward movements of slope-forming materials, which may be rock, soil, artificial fill, or combinations of such materials. The size of landslides varies enormously, from tiny slides containing less than a cubic yard of material to massive slides containing millions of cubic yards. Large landslides may move downslope for hundreds of yards, or even several miles. A landslide may move rapidly as in a soil or rock avalanche or it may move slowly for hours or even weeks. A similar but much slower movement is called creep.

The susceptibility of a given area to landslides depends on many variables. However, the general characteristics that influence landslide hazards are well understood and thus it is possible to map areas in terms of general susceptibility to landslides. There are a number of important factors that govern the formation of landslides, including:

- Slope Steepness: Most landslides occur on moderate to steep slopes.
- Slope Material: Loose, unconsolidated soils and soft, weak rocks are more hazardous than are firm, consolidated soils or hard bedrock.
- Structure and Physical Properties of Materials, including the orientation of layering and zones of weakness relative to slope direction.
- Water Content: Increased water content increases landslide hazard by decreasing resistance to sliding and adding weight to the materials on a slope.
- Vegetation Coverage: Abundant vegetation with deep roots increases slope stability.
- Proximity to Areas of Erosion or Human-made Cuts: Undercutting slopes may greatly increase landslide potential.
- Earthquake Ground Motions: Strong ground motion may trigger landslides in marginally stable slopes or loosen slope materials and thus increase the risk of future landslides.

Landslides do occur in Butte County, but they are not common. Because of differences in the physical characteristics of slope materials, which markedly influence landslide potential, some superficially similar areas may differ strongly in terms of landslide hazards. For this reason, a site-specific geotechnical analysis would be needed to accurately assess potential landslide hazards at any specific project location.

Most landslides in Butte County occur on slopes greater than 15 percent, and most new landslides occur in areas that have experienced previous landslides. The areas of highest landslide potential are in the mountainous central and northern areas of the county where well-developed soils overlay impervious bedrock on steep slopes, which at times undergo heavy rainfall. The slopes around flat uplands, such as Table Mountain, are also highly susceptible to landslides. The rest of Butte County has moderate to low landslide potential. The areas of lowest landslide potential are the flatlands of the Sacramento Valley. There may, however, be some landslide hazard due to possible liquefaction of soils bordering the Sacramento River and its tributaries. Areas with potential landslide hazards are shown in Figure 5.7-5, *Landslide Potential*.

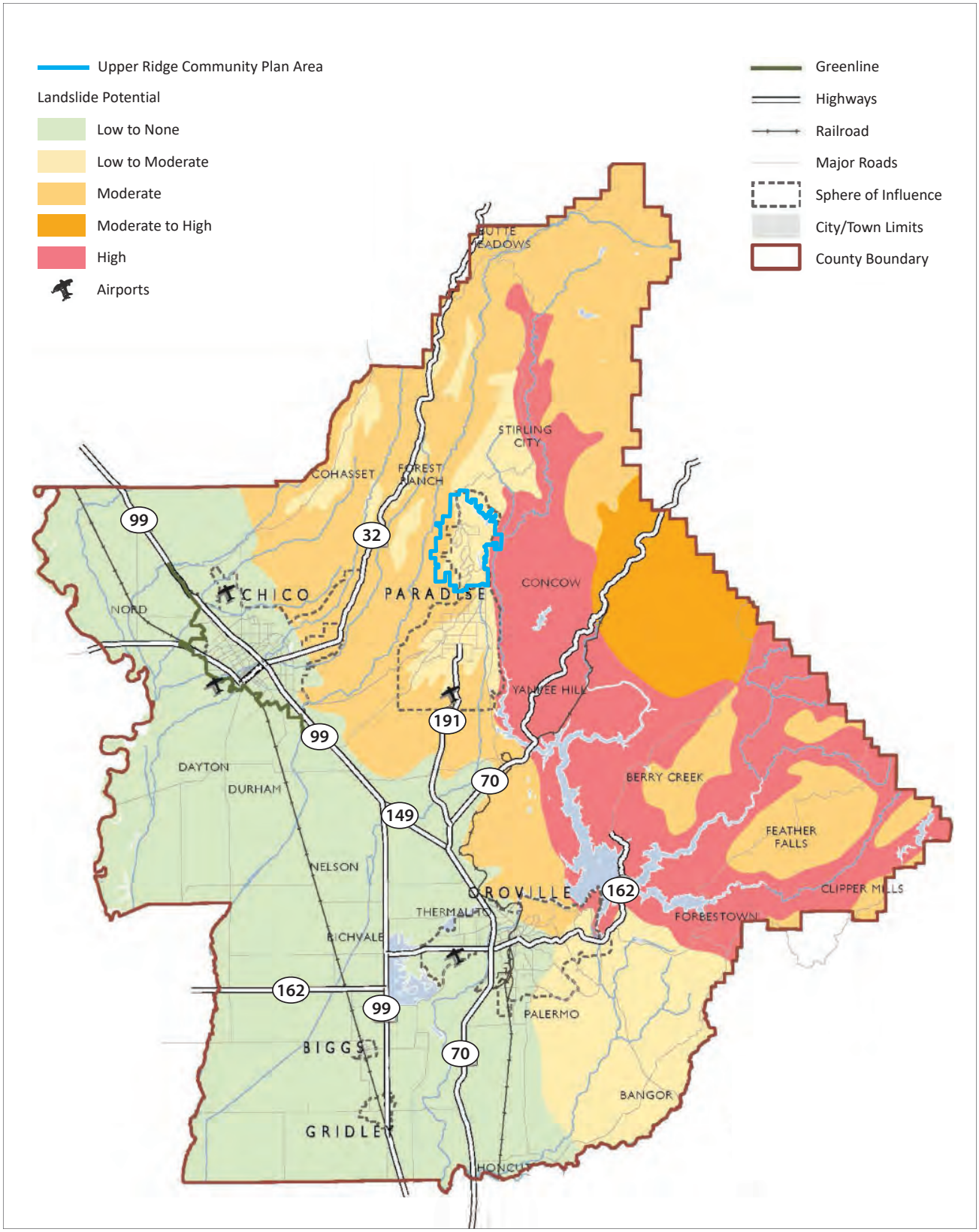
Climate change will likely increase landslides within the county as precipitation falls in more intense rainstorms, droughts dry out vegetation, and wildfires remove stabilizing vegetation from the mountains and hillsides. Wildfires and droughts can clear vegetation that holds soil in place and dry out soil to the point that it is less able to absorb water, creating a risk of landslides when heavy rains return. This can cause landslides and debris flows, especially in areas within or below burn scars.

Expansive Soils

Expansive soils have a potential to undergo significant changes in volume, either shrinking or swelling, with changes in moisture content. Periodic shrinking and swelling of expansive soils can cause extensive damage to buildings, other structures, and roads. Moisture content and the percentage and type of clay minerals present in the soil determine the potential volume change of an expansive soil. Soils composed only of sand and gravel have no potential for volume change due to moisture change. Soils containing clays have variable potential for volume changes. Such soils are generally classified into three expansive soils classes with low, moderate, and high potential for volume changes:

- Low: This soils class includes sands and silts with relatively low amounts of clay minerals. Sandy clays may also have low expansion potential, if the clay is kaolinite (a common group of clays).
- Moderate: This class includes silty clay and clay textured soils if the clay is kaolinitic and also includes heavy silts, light sandy clays, and silty clays with mixed clay minerals.
- High: This class includes clays and clay with mixed monmorillonite, a clay mineral that expands and contracts more than kaolinite. Technically, expansive soils are classified on a numerical shrink-swell classification index that varies from zero (no potential volume changes) to 10 (maximum potential volume changes). In this classification, soils with a shrinkage index below five are considered to have low expansion potential. Soils with an index between five and seven have moderate expansion potential, and soils with indices above seven have high expensive potential.

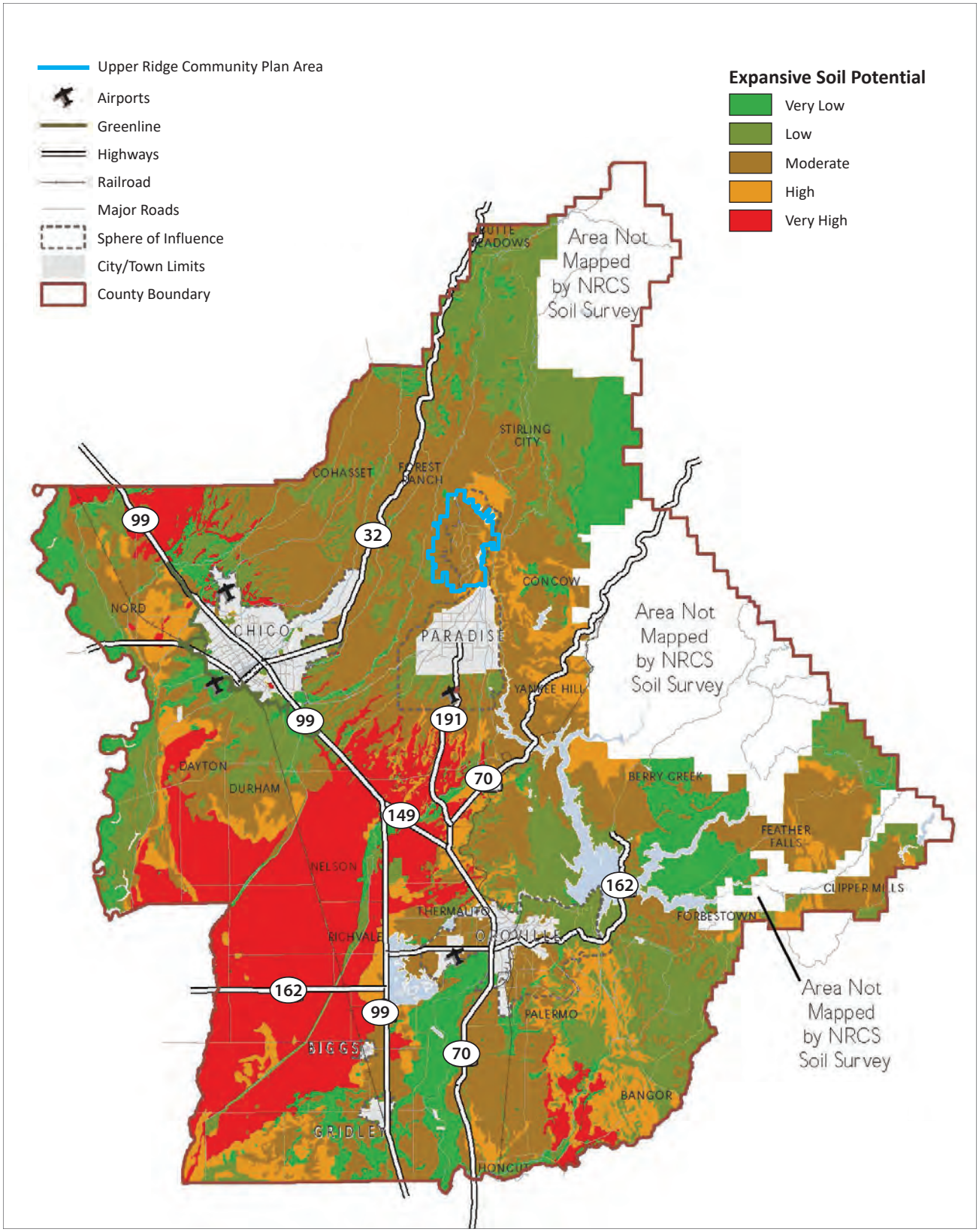
Figure 5.7-6, *Expansive Soils,* shows the distribution of expansive soils within Butte County. Note that soils with no expansive potential are grouped in the low expansion potential category. Soils with no or low expansion potential occur along stream and river valleys and on steep mountain slopes. Soils of high expansion potential generally occur in the level areas of the Sacramento Valley, including around the population centers of Chico, Oroville, Biggs, and Gridley.



Source: Butte County General Plan 2030: Health and Safety Element, 2016

0 9
Scale (Miles)

Figure 5.7-5
Landslide Potential



Source: Butte County GIS, 2009; Questa, 2007

0 9
Scale (Miles)

Figure 5.7-6
Expansive Soils

Volcanic Hazards

Some of the most striking topographic features of Butte County, including Table Mountain north of Oroville, are volcanic in origin. The lava flows that now cap Table Mountain and most of the other volcanic features in the county are the result of ancient volcanic activity, occurring tens of millions of years ago. The geologic activity producing this volcanism has long since ceased and thus there are virtually no volcanic hazards within most of Butte County. However, extreme northern Butte County is an exception to this generalization because Mt. Lassen, an active volcano, is only about 25 miles north of the Butte County line. Mount Lassen is the southernmost volcano in the Cascade Range. There are numerous active volcanoes in the Cascades, including Mount Shasta in California and several others in Oregon and Washington. Mount Lassen last erupted in the period between 1914 and 1921; this period of volcanic activity included steam and ash eruptions as well as a small lava flow. Like the other volcanoes in the Cascades, Mount Lassen is considered dormant, which means that it is not currently erupting but is expected to erupt again in the future. Mount Lassen has erupted at least seven times within the past 1,200 years.

There are four main hazards that may accompany volcanic eruptions: ash and cinder falls, explosive blasts, lava flows, and mud flows. Despite the general severity of volcanic hazards, actual volcanic hazards for Butte County are limited to the northernmost portions of the county that might be affected by an eruption by Mount Lassen. Even here, the hazards are relatively modest because of the distance between Butte County and Mount Lassen. In historic times, there are no records of significant ash falls, explosive effects, lava flows, or mud flows from Mount Lassen reaching Butte County. Furthermore, impending volcanic eruptions are generally signaled by numerous advanced warning signs, and thus it is usually possible to evacuate residents in areas subject to volcanic hazards, particularly given the county's distance from the volcanic event. Although the potential for volcanic hazards in Butte County is low, consideration of these hazards should nonetheless be made for the northern reaches of the county. Ash fallout and pyroclastic ejecta may cause damage to structures, inhibit operation of vehicles and machinery, and create public health and safety concerns.

Naturally Occurring Asbestos

Within California, naturally occurring asbestos (NOA) is known to exist in serpentine rock. This rock, and its parent material, ultramafic rock, is abundant in the Sierra foothills, the Klamath Mountains, and Coast Ranges. Within Butte County, serpentine rock is found within the foothill and mountain regions. NOA is commonly found in ultramafic rock, including serpentine, and near fault zones. The amount of asbestos that is typically present in these rocks ranges from less than 1 percent up to 25 percent and more. Asbestos is released from ultramafic and serpentine rock when it is eroded, broken, or crushed. This can happen when cars drive over unpaved roads or driveways that are surfaced with these rocks, when land is graded for building purposes, or at quarrying operations. Asbestos is also released naturally through weathering and erosion. Once released from the rock, asbestos can become airborne and may stay in the air for long periods of time.

The primary hazard is from chronic inhalation into the lungs. Asbestos is a known carcinogen and inhalation of asbestos may result in the development of lung cancer or mesothelioma. The asbestos contents of many manufactured products have been regulated in the U.S. for a number of years. The California Air Resources Board (CARB) has regulated the amount of asbestos in crushed serpentine used in surfacing applications, such as for gravel on unpaved roads, since 1990. In 1998, new concerns were raised about possible health

hazards from activities that disturb rocks and soil containing asbestos and may result in the generation of asbestos-laden dust. These concerns led CARB to revise their asbestos limit for crushed serpentinite and ultramafic rock in surfacing applications from 5 percent to less than 0.25 percent, and to adopt a new rule requiring dust control best practices for activities that disturb rock and soil containing naturally occurring asbestos.

Serpentine soils are an important natural resource in Butte County. Over 200 species of native California flora are restricted wholly or in large part to serpentine soils, and an estimated 90 to 100 taxa are endemic to serpentine and related soil types in the northern coast ranges of California. Serpentine soils or rock should be left undisturbed and stabilized to reduce exposing or releasing asbestos fibers into the environment. As long as fibers remain bound in rock or soil, they pose very little health threat.

5.7.2 STANDARDS OF SIGNIFICANCE

The proposed project would result in a significant geology and soils impact if it would:

1. 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.
    - Landslides.
2. Result in substantial soil erosion or the loss of topsoil.
3. Result in a significant impact related to development 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.
4. Create substantial risks to life or property as a result of its location on expansive soil, as defined Section 1803.5.3 of the California Building Code, creating substantial direct or indirect risks to life or property.
5. Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater.
6. Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature.
7. In combination with past, present, and reasonably foreseeable projects, result in significant cumulative impacts with respect to geology and soils.

5.7.3 PROPOSED GENERAL PLAN AND POLICIES

The following are relevant policies of the Butte County General Plan Update, which may contribute to a reduction in seismic and geologic hazards, in addition to reducing impacts on paleontological resources as a result of implementation of the proposed project.

Health and Safety Element

- HS-P2.4: Development projects on lands within the 100-year flood zone, as identified on the most current available maps from the Federal Emergency Management Agency (the most current available map at the time of the publication of General Plan 2040 is shown on Figure HS-1), shall be allowed only if the applicant demonstrates that it will not:
    a. Create danger to life and property due to increased flood heights or velocities caused by excavation, fill, roads, and intended use.
    b. Create difficult emergency vehicle access in times of flood.
    c. Create a safety hazard due to the height, velocity, duration, rate of rise and sediment transport of the flood waters expected at the site.
    d. Create excessive costs in providing governmental services during and after flood conditions, including maintenance and repair of public facilities.
    e. Interfere with the existing water conveyance capacity of the floodway.
    f. Substantially increase erosion and/or sedimentation.
    g. Require significant storage of material or any substantial grading or substantial placement of fill that is not approved by the County through a development agreement, discretionary permit, or other discretionary entitlement; a ministerial permit that would result in the construction of a new residence; or a tentative map or parcel map.
    h. Place septic tank systems in areas that will be flooded, causing overflow of the system and/or contamination of water supplies.
    i. Conflict with the provisions of the applicable requirements of Government Code Sections 65865.5, 65962, or 66474.5.
- HS-P6.2: Geotechnical investigations shall be completed prior to approval of schools, hospitals, fire stations, and sheriff stations, as a means to ensure that these critical facilities are constructed in a way that mitigates site-specific seismic hazards.
- HS-P6.3: Applicants shall seismically retrofit existing homes where required under existing building codes.
- HS-P6.4: The County shall promote the use of the California Earthquake Brace + Bolt Grant Program for seismic retrofits on homes built before 1980.
- HS-P7.1: Site-specific geotechnical investigations shall be required to assess landslide potential for private development and public facilities projects in areas rated “Moderate to High” and “High” in Figure HS 7 or the most current available mapping.
- HS-P7.3: The County discourages new development in landslide or liquefaction-prone areas.
- HS-P9.1: Site-specific geotechnical investigations shall be required to assess risks from expansive soils for private development projects and public facilities in areas rated “High” in Figure HS-9 or the most current available mapping. Private development projects shall implement recommendations provided in the geotechnical investigations.

- HS-P10.1: Continue to work with Groundwater Sustainability Agencies to ensure that groundwater withdrawals do not lead to inelastic subsidence.
- HS-P16.4: Critical emergency response facilities such as fire, police, emergency service facilities, and utilities shall be sited to minimize their exposure to flooding, seismic effects, fire, or explosion.

Conservation and Open Space Element

- COS-P16.2: Any archaeological or paleontological resources on a development project site shall be either preserved in their sites or adequately documented as a condition of removal. When a development project has sufficient flexibility, avoidance and preservation of the resource shall be the primary mitigation measure.

5.7.4 IMPACT DISCUSSION

GEO-1	The project would not exacerbate hazards from surface rupture of a known active fault, strong seismic ground shaking, seismic-related ground failure, or landslides.

General Plan 2040

Surface Rupture

There is one active Alquist-Priolo Earthquake Fault Zone, the Cleveland Hills Fault, in Butte County, as shown in Figure 5.7-1, *Alquist-Priolo Earthquake Fault Zone*s. Rupture of this active earthquake fault could cause damage to structures along its trace. Land within this fault is zoned primarily for Rural Residential use. Small portions are also designated for Agriculture, Very Low Density Residential, and Mixed Use.

The Health and Safety Element of the General Plan Update contains policies that address potential fault rupture impacts, such as Policy HS-P6.2, which calls for the completion of a geotechnical investigation prior to approval of critical facilities; Policy HS-P6.3, which calls for seismic retrofitting of homes; Policy HS-P6.4, which calls for the County to promote the use of the California Earthquake Brace and Bolt Grant program for seismic retrofits on homes built before 1980; and Policy HS-P16.4, which calls for critical facilities and utilities to be sited to minimize their exposure to flooding, seismic effects, fire, or explosion.

All new construction in Butte County would be required to comply with the latest version of the CBC, which contains criteria and standards designed to reduce ground rupture risks to acceptable levels. To apply this code to site development, Butte County requires that new construction be in accordance with building, grading, and erosion-control ordinances and include inspections during construction to ensure that design standards are met.

The proposed General Plan Update goals, policies, and actions, in combination with the Alquist-Priolo Act, CBC, and other State and local requirements, would reduce potential impacts associated with surface fault rupture to less than significant.

Seismic Ground Shaking

Butte County is considered a seismically active area. Moderate to strong ground shaking associated with seismic activity could cause damage to structures and injury or death to inhabitants. The implementation of the following Health and Safety Element policies of the General Plan Update would address potential ground-shaking hazards: Policy HS-P6.2, which calls for the completion of a geotechnical investigation prior to approval of critical facilities; Policy HS-P6.3, which calls for seismic retrofitting of homes; and Policy HS-P6.4, which calls for the County to promote the use of the California Earthquake Brace and Bolt Grant program for seismic retrofits on homes built before 1980.

Furthermore, new construction in Butte County is required to comply with the latest version of the California Building Standards Code, which contains seismic building criteria and standards that are designed to reduce ground-shaking risks to acceptable levels.

The proposed General Plan Update goals, policies, and actions, in combination with the CBC and other State and local requirements, would reduce potential ground-shaking impacts to a less-than-significant level.

Landslides

The eastern portion of Butte County includes foothills and mountain areas with steep, potentially unstable slopes that could be subject to landslides. Slope instability and landslides are a common problem where there are steep slopes and unstable geologic formations. Figure 5.7-5, *Landslide Potential,* shows the areas with the potential for landsliding in the county.

The Health and Safety Element of the General Plan Update includes the following policies that address potential landslide hazards: Policy HS-P7.1, which calls for site-specific geotechnical investigations to be required to assess landslide potential in areas rated "Moderate to High" and "High," and Policy HS-P7.3, which discourages new development in landslide or liquefaction-prone areas.

The proposed General Plan Update goals and policies, in combination with the CBC, Grading and Erosion Control Ordinances, and other State and local requirements, would ensure that potential slope instability and landslide impacts would be less than significant.

Level of Significance Before Mitigation: GEO-1 would be less than significant.

Mitigation Measures

No mitigation measures are required.

Upper Ridge Community Plan

As discussed in Chapter 3, *Project Description,* the Upper Ridge Community Plan would increase development potential in the Upper Ridge community with 28 parcels redesignated from Retail and Office to Mixed-use land uses in the Old Magalia and Magalia Center neighborhoods. Potential future development under the proposed project would add additional residents to the Upper Ridge Community. The Upper Ridge Community Plan is not within the Cleveland Hills Fault, as shown in Figure 5.7-1. Butte

County is considered seismically active. As shown in Figure 5.7-5, the Upper Ridge Community Plan area is within a low to moderate and moderate landslide potential area. Development in the Upper Ridge Community Plan would be subject to the following Health and Safety Element policies of the General Plan Update, which would address potential ground-shaking hazards: Policy HS-P6.2, which calls for the completion of a geotechnical investigation prior to approval of critical facilities; Policy HS-P6.3, which calls for seismic retrofitting of homes; and Policy HS-P6.4, which calls for the County to promote the use of the California Earthquake Brace and Bolt Grant program for seismic retrofits on homes built before 1980.

The proposed General Plan Update goals and policies, in combination with applicable State and local requirements, would ensure that potential ground shaking and landslide impacts would be less than significant.

Level of Significance Before Mitigation: GEO-1 would be less than significant.

Mitigation Measures

No mitigation measures are required.

GEO-2 The project would not result in substantial soil erosion or the loss of topsoil.

General Plan 2040

Erosion results in the loss of topsoil that may reduce crop yields and cause sedimentation problems downstream, and in extreme cases, can lead to landslides. Erosion hazards are of particular concern in the hilly and mountainous areas in the eastern and northern portions of the county, as shown in Figure 5.7-3, *Erosion Potential*. As shown in Figure 3-3, *General Plan 2040 Land Use Map,* in Chapter 3, *Project Description,* areas of the county are designated Timber Mountain, which could increase the risk of erosion. Accelerated erosion may result from development in areas of moderate to steep topography. Soil and wind erosion could result from vegetation removal, improper farming practices, grading for roadways and construction, and improper diversion and discharge of water. During the winter months, there is an increased risk of soil erosion on construction sites, where bare soil can be exposed and potentially unstable cut and fill slopes can be created.

The Health and Safety Element of the General Plan Update includes the following policy that addresses soil erosion impacts: Policy HS-P8.1, which calls for site-specific geotechnical investigations to assess erosion potential for private development projects and public facilities in areas rated “Very High.”

New construction in Butte County would also be required to comply with the Butte County Grading Ordinance, which includes requirements for control of erosion due to construction activities for certain project types and locations.

The proposed General Plan Update goals and policies, in combination with the Butte County Grading Ordinance and other State and local requirements, would reduce potential erosion impacts to a less-than-significant level.

Level of Significance Before Mitigation: GEO-2 would be less than significant.

Mitigation Measures

No mitigation measures are required.

Upper Ridge Community Plan

As discussed in Chapter 3, *Project Description,* the Upper Ridge Community Plan would increase development potential in the Upper Ridge community with 28 parcels redesignated from Retail and Office to Mixed-use land uses in the Old Magalia and Magalia Center neighborhoods. Potential future development under the proposed project would add additional residents to the Upper Ridge Community. Areas of the Upper Ridge Community Plan area that are susceptible to moderate and severe erosion, as shown in Figure 5.7-3, would be required to comply with state and local requirements, including the Butte County Grading Ordinance. Additionally, the Health and Safety Element of the General Plan Update includes the following policy that addresses soil erosion impacts: Policy HS-P8.1, which calls for site-specific geotechnical investigations to assess erosion potential for private development projects and public facilities in areas rated "Very High."

The proposed General Plan Update goals and policies, in combination with applicable State and local requirements, would ensure that potential erosion impacts would be less than significant.

Level of Significance Before Mitigation: GEO-2 would be less than significant.

Mitigation Measures

No mitigation measures are required.

GEO-3	The project would not result in a significant impact related to development 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.

General Plan 2040

There are unstable soils in Butte County, and landslides, subsidence, and liquefaction are potential hazards. New development allowed by the General Plan Update could occur in such hazard areas. Several areas that are part of the proposed General Plan Update could be subject to landslides that are seismically induced and liquefaction, as shown in Figure 5.7-2 and Figure 5.7-5. Areas of Butte County may be subject to the effects of liquefaction due to underlying sandy and silty sediments and shallow groundwater. These areas are generally found along the Sacramento and Feather Rivers and within smaller drainages. These saturated, cohesionless soils could lose strength and behave like a viscous liquid in the event of strong ground shaking. This loss of strength could result in the sudden collapse or overturning of structures and collapse of pavement. Subsidence is possible in valley areas as a consequence of groundwater withdrawal and this

could affect redesignated sites south of Palermo and east of Biggs, among others. Figure 5.7-4 shows the areas of subsidence in the county, which are predominantly in the western portion.

However, the Health and Safety Element of the General Plan Update includes the following policies that address potential unstable soil impacts: Policy HS-P7.1, which calls for site-specific geotechnical investigations to assess landslide potential in areas rated "Moderate to High" and "High," Policy HS-P7.3, discourages new development in landslide or liquefaction-prone areas, and Policy HS-P10.1, which calls for continuing to work with Groundwater Sustainability Agencies to ensure groundwater withdrawals do not lead to inelastic subsidence.

New construction in Butte County is also required to comply with the California Building Standards Code, which contains building criteria and standards that are designed to reduce geologic risks to acceptable levels. Additionally, standard geotechnical engineering procedures, soil testing, proper design, and quality construction controls can identify and mitigate for liquefiable soils or unstable soils during site development. By applying knowledge about the kinds of soils, their strengths, and groundwater conditions, and by properly designing and constructing fills and foundations, modern soil engineering practices have improved greatly. Through adherence to current standards, subsidence and settlement damage, including liquefaction, can be reduced to levels that are generally considered acceptable.

The proposed General Plan Update goals, policies, and actions, in combination with the CBC, Grading Ordinance, and other State and local requirements, would ensure that potential unstable soil impacts would be less than significant.

Level of Significance Before Mitigation: GEO-3 would be less than significant.

Mitigation Measures

No mitigation measures are required.

Upper Ridge Community Plan

As discussed in Chapter 3, *Project Description,* the Upper Ridge Community Plan would increase development potential in the Upper Ridge community with 28 parcels redesignated from Retail and Office to Mixed-use land uses in the Old Magalia and Magalia Center neighborhoods. Potential future development under the proposed project would add additional residents to the Upper Ridge Community. The Upper Ridge Community Plan area is within a "generally low" liquefaction zone and low to moderate and moderate landslide zones, as shown in Figure 5.7-2 and Figure 5.7-5. The Upper Ridge Community Plan area is not within an area of subsidence, as shown in Figure 5.7-4. The proposed project would implement the following policies from the Health and Safety Element of the General Plan Update that address potential unstable soil impacts: Policy HS-P7.1, which calls for site-specific geotechnical investigations to assess landslide potential in areas rated "Moderate to High" and "High;" Policy HS-P7.3, which discourages new development in landslide or liquefaction-prone areas; and Policy HS-P10.1, which calls for continuing to work with Groundwater Sustainability Agencies to ensure groundwater withdrawals do not lead to inelastic subsidence.

The proposed General Plan Update goals and policies, in combination with applicable State and local requirements, would ensure that potential unstable soil impacts would be less than significant.

Level of Significance Before Mitigation: GEO-3 would be less than significant.

Mitigation Measures

No mitigation measures are required.

GEO-4	The project would not create substantial risks to life or property as a result of its location on expansive soil, as defined in Section 1803.5.3 of the California Building Code, creating substantial direct or indirect risks to life or property.

General Plan 2040

The General Plan Update would allow new development in areas with expansive soils, as shown in Figure 5.7-6, *Expansive Soils*. Newly constructed buildings, pavements, and utilities in these areas could be damaged by differential settlement due to soil expansion and contraction. These variations in ground settlement may ultimately lead to structural failure and damage to infrastructure.

The adverse effects of expansive soils can be avoided through proper subsoil preparation, drainage, and foundation design. However, to design an adequate foundation, the conditions must be assessed through appropriate soil sampling and laboratory soils testing. Expansive soils are identified through expansion tests of samples of soil or rock. Procedures employed in expansive soils testing are found in many codes and regulations, including the CBC that has been adopted by Butte County.

The Health and Safety Element of the General Plan Update includes the following policy that addresses potential hazards from expansive soils: Policy HS-P9.1, which calls for site-specific geotechnical investigations for expansive soils to be required in areas rated "High."

The proposed General Plan Update goals and policies, in combination with the CBC and other State and local requirements, would ensure that potential expansive soil impacts would be less than significant.

Level of Significance Before Mitigation: GEO-4 would be less than significant.

Mitigation Measures

No mitigation measures are required.

Upper Ridge Community Plan

As discussed in Chapter 3, *Project Description,* the Upper Ridge Community Plan would increase development potential in the Upper Ridge community with 28 parcels redesignated from Retail and Office to Mixed-use land uses in the Old Magalia and Magalia Center neighborhoods. Potential future development under the proposed project would add additional residents to the Upper Ridge Community. The Upper Ridge Community Plan area is designated as having moderate to high levels of expansive soils, as shown in Figure 5.7-6, and therefore, the proposed project would implement the following policy from the Health and Safety Element of the General Plan Update that addresses potential unstable soil impacts: Policy HS-P9.1, which calls for site-specific geotechnical investigations for expansive soils to be required in areas rated "High."

The proposed General Plan Update goals and policies, in combination with applicable State and local requirements, would ensure that potential impacts from expansive soils would be less than significant.

Level of Significance Before Mitigation: GEO-4 would be less than significant.

Mitigation Measures

No mitigation measures are required.

GEO-5 Project development would use alternative wastewater disposal systems.

General Plan 2040

There are portions of Butte County that have soils that are unsuitable for wastewater disposal through septic systems. These include areas with shallow groundwater, impermeable clay soils, and/or steep slopes. Some existing on-site wastewater systems are in areas with poor soils that are incapable of supporting the use of alternative wastewater disposal systems. The following policy in the Health and Safety Element of the General Plan Update addresses septic tanks: Policy HS-P2.4, which states that development on lands within the 100-year flood zone shall only be allowed if it will not place septic tank systems in areas that will be flooded, causing overflow of the system and/or contamination of water supplies.

The General Plan Update policy, in combination with the On-site Waster Water Ordinance (Chapter 19 of the Butte County Municipal Code), would ensure impacts are less than significant.

Level of Significance Before Mitigation: GEO-5 would be less than significant.

Mitigation Measures

No mitigation measures are required.

Upper Ridge Community Plan

As discussed in Chapter 3, *Project Description,* the Upper Ridge Community Plan would increase development potential in the Upper Ridge community with 28 parcels redesignated from Retail and Office

to Mixed-use land uses in the Old Magalia and Magalia Center neighborhoods. Potential future development under the proposed project would add additional residents to the Upper Ridge Community. Areas of the Upper Ridge Community Plan that include septic tanks would implement the following policy from the Health and Safety Element of the General Plan Update that addresses septic tanks: Policy HS-P2.4, which states that development on lands within the 100-year flood zone shall only be allowed if it will not place septic tank systems in areas that will be flooded, causing overflow of the system and/or contamination of water supplies.

The proposed General Plan Update goals and policies, in combination with applicable State and local requirements, would ensure that potential impacts from septic tanks would be less than significant.

Level of Significance Before Mitigation: GEO-5 would be less than significant.

Mitigation Measures

No mitigation measures are required.

GEO-6 Project development would not directly or indirectly destroy a unique paleontological resource or unique geologic feature.

General Plan 2040

Future development allowed under the General Plan Update may result in impacts to paleontological resources or unique geological features. Ground-disturbing activities in sensitive areas may cause damage to or destruction of paleontological resources. Additionally, development of previous undeveloped areas could result in the discovery of paleontological resources, which would be considered a significant impact.

The Conservation and Open Space Element of the General Plan Update includes the following policy pertaining to paleontological resources, COS-P16.2, which states: any archaeological or paleontological resources on a development project site shall be either preserved in their sites or adequately documented as a condition of removal. When a development project has sufficient flexibility, avoidance and preservation of the resource shall be the primary mitigation measure.

The proposed policies of the General Plan Update, federal and state regulations, as well as mitigation measures GEO-1 through GEO-3 would reduce potential impacts to less than significant.

Level of Significance Before Mitigation: GEO-6 would be less than significant.

Mitigation Measures

GEO-1 **High Sensitivity.** Projects involving ground disturbances in previously undisturbed areas mapped as having "high" paleontological sensitivity shall be monitored by a qualified paleontological monitor during all ground-disturbing activities. Monitoring shall include inspection of exposed sedimentary units during active excavations within sensitive geologic sediments. The monitor shall have authority to temporarily divert activity away from exposed fossils to evaluate the significance of the find and, if the fossils are determined to

be significant, professionally and efficiently recover the fossil specimens and collect associated data. The paleontological monitor shall use field data forms to record pertinent location and geologic data, measure stratigraphic sections (if applicable), and collect appropriate sediment samples from any fossil localities.

GEO-2 **Low-to-High Sensitivity.** Prior to issuance of a grading permit for projects involving ground disturbance in previously undisturbed areas mapped with "low-to-high" paleontological sensitivity, the project applicant shall consult with a geologist or paleontologist to confirm whether the grading would occur at depths that could encounter highly sensitive sediments for paleontological resources. If confirmed that underlying sediments may have sensitivity, construction activity shall be monitored by a qualified paleontologist. The paleontologist shall have the authority to halt construction during ground-disturbing activities, as outlined in Mitigation Measure GEO-3.

GEO-3 **All Projects.** In the event of any fossil discovery, regardless of depth or geologic formation, ground-disturbing activities shall halt within a 50-foot radius of the find until its significance can be determined by a qualified paleontologist. Significant fossils shall be recovered, prepared to the point of curation, identified by qualified experts, listed in a database to facilitate analysis, and deposited in a designated paleontological curation facility, in accordance with the standards of the Society of Vertebrate Paleontology. The repository shall be identified, and a curatorial arrangement shall be signed prior to collection of the fossils.

Level of Significance After Mitigation: GEO-6 would be less than significant.

Upper Ridge Community Plan

As discussed in Chapter 3, *Project Description,* the Upper Ridge Community Plan would increase development potential in the Upper Ridge community with 28 parcels redesignated from Retail and Office to Mixed-use land uses in the Old Magalia and Magalia Center neighborhoods. Areas of the Upper Ridge Community Plan that would include ground-disturbing activities would implement Policy COS-P16.2 of the Conservation and Open Space Element.

The proposed General Plan Update policies, in combination with applicable federal and State requirements, and Mitigation Measures GEO-1 through GEO-3 would ensure that potential impacts to paleontological resources would be less than significant.

Level of Significance Before Mitigation: GEO-6 would be potentially significant.

Mitigation Measures

Implement Mitigation Measures GEO-1 through GEO-3.

Level of Significance After Mitigation: GEO-6 would be less than significant.

5.7.5 CUMULATIVE IMPACTS

GEO-7	The proposed project, in combination with past, present, and reasonably foreseeable projects, would result in less-than-significant cumulative impacts with respect to geology and soils.

Development in the Butte County region would continue to expose people and property to seismic hazards and adverse soil conditions. The policies contained in the General Plan Update, along with compliance with State and local regulations addressing building construction, and mitigation measures GEO-1 through GEO-3, would reduce project-level impacts associated with geology and soils to a less-than-significant level. Development projects in other communities would also be subject to federal, State, and local policies and regulations that would address seismic and geologic hazard impacts.

Overall, federal, state, and local policies and regulations would address potential local and site-specific impacts associated with geology and soils. Therefore, the cumulative geology and soils impact would be less than significant.

Level of Significance Before Mitigation: GEO-7 would be less than significant.

Mitigation Measures

No mitigation measures are required.

5.7.6 REFERENCES

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5.8 GREENHOUSE GAS EMISSIONS

This chapter describes the potential greenhouse gas (GHG) emissions impacts from buildout of the General Plan Update and Upper Ridge Community Plan (URCP) in Butte County. This chapter describes the regulatory framework and existing conditions related to GHGs, identifies criteria used to determine impact significance, provides an analysis of the potential GHG emissions impacts, and identifies proposed project policies and strategies and feasible mitigation measures that could minimize any potentially significant impacts.

Terminology

- **Greenhouse gases (GHG).** Gases in the atmosphere that absorb infrared light, thereby retaining heat in the atmosphere and contributing to a greenhouse effect.
- **Global warming potential (GWP).** Metric used to describe how much heat a molecule of a GHG absorbs relative to a molecule of carbon dioxide (CO_2) over a given period of time (20, 100, and 500 years). CO_2 has a GWP of 1.
- **Carbon dioxide-equivalent (CO_2e).** The standard unit to measure the amount of GHGs in terms of the amount of CO_2 that would cause the same amount of warming. CO_2e is based on the GWP ratios between the various GHGs relative to CO_2.
- **$MTCO_2e$.** Metric ton of CO_2e.
- **$MMTCO_2e$.** Million metric tons of CO_2e.

5.8.1 ENVIRONMENTAL SETTING

5.8.1.1 GREENHOUSE GASES AND CLIMATE CHANGE

Scientists have concluded that human activities are contributing to global climate change by adding large amounts of heat-trapping gases, known as GHGs, to the atmosphere. The primary source of these GHGs is fossil fuel use. The Intergovernmental Panel on Climate Change (IPCC) has identified four major GHGs—water vapor, carbon dioxide (CO_2), methane (CH_4), and ozone (O_3)—that are the likely cause of an increase in global average temperatures observed in the 20th and 21st centuries. Other GHGs identified by the IPCC that contributes to global warming to a lesser extent are nitrous oxide (N_2O), sulfur hexafluoride (SF_6), hydrofluorocarbons, perfluorocarbons, and chlorofluorocarbons (IPCC 2001).[1,2] The major GHGs applicable to the proposed project are briefly described.

[1] Water vapor (H_2O) is the strongest GHG and the most variable in its phases (vapor, cloud droplets, ice crystals); however, water vapor is not considered a pollutant because it is considered part of the feedback loop rather than a primary cause of change.

[2] Black carbon contributes to climate change both directly, by absorbing sunlight, and indirectly, by depositing on snow (making it melt faster) and by interacting with clouds and affecting cloud formation. Black carbon is the most strongly light-absorbing component of particulate matter (PM) emitted from burning fuels such as coal, diesel, and biomass. The share of black carbon emissions from transportation is dropping rapidly and is expected to continue to do so between now and 2030 as a result of California's air quality programs. The remaining black carbon emissions will come largely from woodstoves/fireplaces, off-road applications, and industrial/commercial combustion (CARB 2022). However, state and national GHG inventories do not include black carbon due to ongoing work resolving the precise global warming potential of black carbon. Guidance for CEQA documents does not yet include black carbon.

- **Carbon dioxide (CO_2)** enters the atmosphere through the burning of fossil fuels (oil, natural gas, and coal), solid waste, trees and wood products, and respiration, and also as a result of other chemical reactions (e.g., manufacture of cement). Carbon dioxide is removed from the atmosphere (sequestered) when it is absorbed by plants as part of the biological carbon cycle.
- **Methane (CH_4)** is emitted during the production and transport of coal, natural gas, and oil. Methane emissions also result from livestock and other agricultural practices and from the decay of organic waste in landfills and water treatment facilities.
- **Nitrous oxide (N_2O)** is emitted during agricultural and industrial activities as well as during the combustion of fossil fuels and solid waste.

GHGs are dependent on the lifetime, or persistence, of the gas molecule in the atmosphere. Some GHGs have stronger greenhouse effects than others. These are referred to as high GWP gases. The GWP of GHG emissions are shown in Table 5.8-1, *GHG Emissions and Their Relative Global Warming Potential Compared to CO_2.* The GWP is used to convert GHGs to CO_2-equivalence (CO_2e) to show the relative potential that different GHGs have to retain infrared radiation in the atmosphere and contribute to the greenhouse effect. For example, under the IPCC Fifth Assessment Report (AR5), GWP values for CH_4, 10 MT of CH_4 would be equivalent to 280 MT of CO_2.

TABLE 5.8-1 GHG EMISSIONS AND THEIR RELATIVE GLOBAL WARMING POTENTIAL COMPARED TO CO_2

GHGs	Second Assessment Report Global Warming Potential Relative to CO_2[1]	Fourth Assessment Report Global Warming Potential Relative to CO_2[1]	Fifth Assessment Report Global Warming Potential Relative to CO_2[1]
Carbon Dioxide (CO_2)	1	1	1
Methane (CH_4)[2]	21	25	28
Nitrous Oxide (N_2O)	310	298	265

Notes: The IPCC published updated GWP values in its Fifth Assessment Report (AR5) that reflect new information on atmospheric lifetimes of GHGs and an improved calculation of the radiative forcing of CO2. However, GWP values identified in AR4 are used by BAAQMD to maintain consistency in statewide GHG emissions modeling. In addition, the 2017 Scoping Plan Update was based on the GWP values in AR4.

[1] Based on 100-year time horizon of the GWP of the air pollutant compared to CO2.

[2] The methane GWP includes direct effects and indirect effects due to the production of tropospheric ozone and stratospheric water vapor. The indirect effect due to the production of CO2 is not included.

Source: IPCC 1995, 2007, 2013.

Human Influence on Climate Change

For approximately 1,000 years before the Industrial Revolution, the amount of GHGs in the atmosphere remained relatively constant. During the 20th century, scientists observed a rapid change in the climate and the quantity of climate change pollutants in the Earth's atmosphere that is attributable to human activities. The recent Sixth Assessment Report (AR6) of the IPCC summarizes the latest scientific consensus on climate change. It finds that atmospheric concentrations of CO_2 have increased by 50 percent since the industrial revolution and continue to increase at a rate of two parts per million each year. By the 2030s, and no later than 2040, the world will exceed 1.5 degrees Celsius (°C) warming (CARB 2022). These recent changes in the quantity and concentration of climate change pollutants far exceed the extremes of the ice ages, and

the global mean temperature is warming at a rate that cannot be explained by natural causes alone. Human activities are directly altering the chemical composition of the atmosphere through the buildup of climate change pollutants (CAT 2006). In the past, gradual changes in the Earth's temperature changed the distribution of species, availability of water, etc. Human activities are accelerating this process so that environmental impacts associated with climate change no longer occur in a geologic time frame but within a human lifetime (IPCC 2007).

Like the variability in the projections of the expected increase in global surface temperatures, the environmental consequences of gradual changes in the Earth's temperature are hard to predict. Projections of climate change depend heavily on future human activity. Therefore, climate models are based on different emission scenarios that account for historical trends in emissions and on observations of the climate record that assess the human influence of the trend and projections for extreme weather events. Climate-change scenarios are affected by varying degrees of uncertainty. For example, there are varying degrees of certainty on the magnitude of the trends for:

- Warmer and fewer cold days and nights over most land areas.
- Warmer and more frequent hot days and nights over most land areas.
- An increase in the frequency of warm spells and heat waves over most land areas.
- An increase in frequency of heavy precipitation events (or proportion of total rainfall from heavy falls) over most areas.
- Larger areas affected by drought.
- Intense tropical cyclone activity increases.
- Increased incidence of extreme high sea level (excluding tsunamis).

Potential Climate Change Impacts for California

There is at least a greater than 50 percent likelihood that global warming will reach or exceed 1.5°C in the near-term, even for the very low GHG emissions scenario (IPCC 2022). Climate change is already impacting California and will continue to affect it for the foreseeable future. For example, the average temperature in most areas of California is already 1°F higher than historical levels, and some areas have seen average increases in excess of 2°F (CalOES 2020). The California Fourth Climate Change Assessment identifies the following climate change impacts under a business-as-usual scenario:

- Annual average daily high temperatures in California are expected to rise by 2.7°F by 2040, 5.8°F by 2070, and 8.8°F by 2100 compared to observed and modeled historical conditions. These changes are statewide averages. Heat waves are projected to become longer, more intense, and more frequent.
- Warming temperatures are expected to increase soil moisture loss and lead to drier seasonal conditions. Summer dryness may become prolonged, with soil drying beginning earlier in the spring and lasting longer into the fall and winter rainy season.
- High heat increases the risk of death from cardiovascular, respiratory, cerebrovascular, and other diseases.

- Droughts are likely to become more frequent and persistent through 2100.3
- Climate change is projected to increase the strength of the most intense precipitation and storm events affecting California.
- Mountain ranges in California are already seeing a reduction in the percentage of precipitation falling as snow. Snowpack levels are projected to decline significantly by 2100 due to reduced snowfall and faster snowmelt.
- Marine layer clouds are projected to decrease, though more research is needed to better understand their sensitivity to climate change.
- Extreme wildfires (i.e., fires larger than 10,000 hectares or 24,710 acres) would occur 50 percent more frequently. The maximum area burned statewide may increase 178 percent by the end of the century.
- Exposure to wildfire smoke is linked to increased incidence of respiratory illness.
- Sea-level rise is expected to continue to increase erosion of beaches, cliffs, and bluffs. (CalOES 2020)

Global climate change risks to California are shown in Table 5.8-2, *Summary of GHG Emissions Risks to California*, and include impacts to public health, water resources, agriculture, coastal sea level, forest and biological resources, and energy.

[3] Overall, California has become drier over time, with five of the eight years of severe to extreme drought occurring between 2007 and 2016, and with unprecedented dry years in 2014 and 2015 (OEHHA 2018). Statewide precipitation has become increasingly variable from year to year, with the driest consecutive four years occurring from 2012 to 2015 (OEHHA 2018).

TABLE 5.8-2 SUMMARY OF GHG EMISSIONS RISKS TO CALIFORNIA

Impact Category	Potential Risk
Public Health Impacts	Heat waves will be more frequent, hotter, and longer Fewer extremely cold nights Poor air quality made worse Higher temperatures increase ground-level ozone levels
Water Resources Impacts	Decreasing Sierra Nevada snowpack Challenges in securing adequate water supply Potential reduction in hydropower Loss of winter recreation
Agricultural Impacts	Increasing temperature Increasing threats from pests and pathogens Expanded ranges of agricultural weeds Declining productivity Irregular blooms and harvests
Coastal Sea-Level Impacts	Accelerated sea-level rise Increasing coastal floods Shrinking beaches Worsened impacts on infrastructure
Forest and Biological Resource Impacts	Increased risk and severity of wildfires Lengthening of the wildfire season Movement of forest areas Conversion of forest to grassland Declining forest productivity Increasing threats from pests and pathogens Shifting vegetation and species distribution Altered timing of migration and mating habits Loss of sensitive or slow-moving species
Energy Demand Impacts	Potential reduction in hydropower Increased energy demand

Sources: CEC 2006, 2009; CCCC 2012; CNRA 2014; CalOES 2020

5.8.1.2 REGULATORY FRAMEWORK

This section discusses the federal, State, and local policies and regulations that are relevant to the analysis of climate change in Butte County.

Federal Regulations

The U.S. Environmental Protection Agency (EPA) announced on December 7, 2009, that GHG emissions threaten the public health and welfare of the American people and that GHG emissions from on-road vehicles contribute to that threat. The U.S. EPA's final findings respond to the 2007 U.S. Supreme Court decision that GHG emissions fit within the Clean Air Act definition of air pollutants. The findings did not themselves impose any emission-reduction requirements but allowed the U.S. EPA to finalize the GHG

standards proposed in 2009 for new light-duty vehicles as part of the joint rulemaking with the California Department of Transportation (USEPA 2009a).

To regulate GHGs from passenger vehicles, the U.S. EPA issued an endangerment finding (USEPA 2009b). The finding identifies emissions of six key GHGs—carbon dioxide, methane, nitrous oxide, hydrochlorofluorocarbons, hydrofluorocarbons, and sulfur hexafluoride—that have been the subject of scrutiny and intense analysis for decades by scientists in the United States and around the world.

Mandatory Reporting Rule for GHGs (2009)

In response to the endangerment finding, the U.S. EPA issued the Mandatory Reporting of GHG Rule that requires substantial emitters of GHG emissions (e.g., large stationary sources) to report GHG emissions data. Facilities that emit 25,000 MT or more of CO_2e per year are required to submit an annual report.

Update to Corporate Average Fuel Economy (CAFE) Standards

The federal government issued new Corporate Average Fuel Economy (CAFE) standards in 2012 for model years 2017 to 2025, which required a fleet average of 54.5 miles per gallon in 2025. In addition, on March 31, 2022, the National Highway Traffic Safety Administration finalized new fuel standards, which will increase fuel efficiency 8 percent annually for model years 2024 to 2025 and 10 percent annually for model year 2026. Overall, the new CAFE standards require a fleet average of 49 miles per gallon (MPG) for passenger vehicles and light trucks for model year 2026, which will be a 10 MPG increase relative to model year 2021 (NHTSA 2022).

State Regulations

Current State of California guidance and goals for reductions in GHG emissions are generally embodied in Executive Order (EO) S-03-05, EO B-30-15, EO B-55-18, Assembly Bill (AB) 32, Senate Bill (SB) 32, AB 1279, and SB 375.

Executive Order S-03-05

EO S-03-05 was signed June 1, 2005, and set the following GHG reduction targets for the state:

- Reduce GHG emissions to 2000 levels by 2010.
- Reduce GHG emissions to 1990 levels by 2020.
- Reduce GHG emissions to 80 percent below 1990 levels by 2050.

Assembly Bill 32, the Global Warming Solutions Act (2006)

AB 32 was passed by the California state legislature on August 31, 2006, to place the state on a course toward reducing its contribution of GHG emissions. AB 32 follows the 2020 tier of emissions reduction targets established in EO S-03-05. CARB prepared the 2008 Scoping Plan to outline a plan to achieve the GHG emissions reduction targets of AB 32 (CARB 2008).

Executive Order B-30-15

EO B-30-15, signed April 29, 2015, set a goal of reducing GHG emissions in the state to 40 percent of 1990 levels by year 2030. EO B-30-15 also directed CARB to update the Scoping Plan to quantify the 2030 GHG reduction goal for the state and requires state agencies to implement measures to meet the interim 2030 goal as well as the long-term goal for 2050 in EO S-03-05. It also requires the Natural Resources Agency to conduct triennial updates of the California adaption strategy, *Safeguarding California*, to ensure climate change is accounted for in state planning and investment decisions.

Senate Bill 32 and Assembly Bill 197

In September 2016, Governor Brown signed SB 32 and AB 197 into law, making the EO goal for year 2030 into a statewide mandated legislative target. AB 197 established a joint legislative committee on climate change policies and requires CARB to prioritize direct emissions reductions rather than the market-based cap-and-trade program for large stationary, mobile, and other sources.

2017 Climate Change Scoping Plan Update

EO B-30-15 and SB 32 required CARB to prepare another update to the Scoping Plan to address the 2030 target for the state. On December 24, 2017, CARB adopted the 2017 Climate Change Scoping Plan Update, which outlined potential regulations and programs, including strategies consistent with AB 197 requirements, to achieve the 2030 target. The 2017 Scoping Plan established a new emissions limit of 260 $MMTCO_2e$ for the year 2030, which corresponds to a 40 percent decrease in 1990 levels by 2030 (CARB 2017c).

California's climate strategy will require contributions from all sectors of the economy, including an enhanced focus on zero-emission and near-zero-emission (ZE/NZE) vehicle technologies; continued investment in renewables, such as solar roofs, wind, and other types of distributed generation; greater use of low-carbon fuels; integrated land conservation and development strategies; coordinated efforts to reduce emissions of short-lived climate pollutants (methane, black carbon, and fluorinated gases); and an increased focus on integrated land use planning, to support livable, transit-connected communities and conservation of agricultural and other lands. Requirements for GHG reductions at stationary sources complement local air pollution control efforts by the local air districts to tighten criteria air pollutants and toxic air contaminants emissions limits on a broad spectrum of industrial sources. Major elements of the 2017 Scoping Plan framework include:

- Implementing and/or increasing the standards of the Mobile Source Strategy, which include increasing ZE buses and trucks.
- Low Carbon Fuel Standard (LCFS), with an increased stringency (18 percent by 2030).
- Implementation of SB 350, which expands the Renewables Portfolio Standard (RPS) to 50 percent RPS and doubles energy-efficiency savings by 2030.
- California Sustainable Freight Action Plan, which improves freight system efficiency, uses NZE technology and deployment of ZE trucks.

- Implementing the Short-Lived Climate Pollutant Strategy, which focuses on reducing methane and hydrofluorocarbon emissions by 40 percent and anthropogenic black carbon emissions by 50 percent by year 2030.
- Post-2020 Cap-and-Trade Program that includes declining caps.
- Continued implementation of SB 375.
- Development of a Natural and Working Lands Action Plan to secure California's land base as a net carbon sink.

To the degree a project relies on GHG mitigation measures, CARB recommends that lead agencies prioritize on-site design features that reduce emissions, especially from vehicle miles traveled (VMT), and direct investments in GHG reductions within the project's region that contribute to potential air quality, health, and economic co-benefits. Where further project design or regional investments are infeasible or not proven to be effective, CARB recommends mitigating potential GHG impacts through purchasing and retiring carbon credits (CARB 2017c).

Executive Order B-55-18

Executive Order B-55-18, signed September 10, 2018, sets a goal "to achieve carbon neutrality as soon as possible, and no later than 2045, and achieve and maintain net negative emissions thereafter." EO B-55-18 directs CARB to work with relevant state agencies to ensure future Scoping Plans identify and recommend measures to achieve the carbon neutrality goal. The goal of carbon neutrality by 2045 is in addition to other statewide goals, meaning not only should emissions be reduced to 80 percent below 1990 levels by 2050, but that, by no later than 2045, the remaining emissions be offset by equivalent net removals of CO_2e from the atmosphere, including through sequestration in forests, soils, and other natural landscapes.

2022 Climate Change Scoping Plan Update

CARB released the Draft 2022 Scoping Plan on May 10, 2022. The Scoping Plan was updated to address the carbon neutrality goals of EO B-55-18. Previous Scoping Plans focused on specific GHG reduction targets for our industrial, energy, and transportation sectors—to meet 1990 levels by 2020, and then the more aggressive 40 percent below that for the 2030 target. Carbon neutrality takes it one step further by expanding actions to capture and store carbon, including through natural and working lands and mechanical technologies, while drastically reducing anthropogenic sources of carbon pollution at the same time. The measures in the Scoping Plan would achieve 80 percent below 1990 levels by 2050. Final adoption of the 2022 Scoping Plan is anticipated in late fall 2022 (CARB 2022).

CARB's 2022 Scoping Plan identifies strategies that would be most impactful at the local level for ensuring substantial process towards the State's carbon neutrality goals (see Table 5.8-3, *Priority Strategies for Local Government Climate Action Plans*).

TABLE 5.8-3 PRIORITY STRATEGIES FOR LOCAL GOVERNMENT CLIMATE ACTION PLANS

Priority Area	Priority Strategies
Transportation Electrification	Convert local government fleets to zero-emission vehicles (ZEV).
	Create a jurisdiction-specific ZEV ecosystem to support deployment of ZEVs statewide (such as permit streamlining, infrastructure siting, consumer education, or preferential parking policies).
VMT Reduction	Reduce or eliminate minimum parking standards in new developments,
	Adopt and implement Complete Streets policies and investments, consistent with general plan circulation element requirements,
	Increase public access to shared clean mobility options (such as planning for and investing in electric shuttles, bike share, car share, transit).
	Implement parking pricing or transportation demand management pricing strategies.
	Amend zoning or development codes to enable mixed-use, walkable, and compact infill development (such as increasing allowable density of the neighborhood).
	Preserve natural and working lands.
Building Decarbonization	Adopt policies and incentive programs to implement energy efficiency retrofits (such as weatherization, lighting upgrades, replacing energy intensive appliances and equipment with more efficient systems, etc.).
	Adopt policies and incentive programs to electrify all appliances and equipment in existing buildings.
	Adopt policies and incentive programs to reduce electrical loads from equipment plugged into outlets (such as purchasing Energy Star equipment for municipal buildings, occupancy sensors, smart power strips, equipment controllers, etc.).
	Facilitate deployment of renewable energy production and distribution and energy storage.

Source: CARB 2022

For California Environmental Quality Act (CEQA) projects for proposed land use developments, CARB recommends demonstrating that they are aligned with State climate goals based on the attributes of land use development that reduce operational GHG emissions while simultaneously advancing fair housing. Attributes that accommodate growth in a manner consistent with the GHG and equity goals of SB 32 have all the following attributes:

- At least 20 percent of the units are affordable to lower-income residents;
- Result in no net loss of existing affordable units;
- Utilize existing infill sites that are surrounded by urban uses, and reuse or redevelop previously developed, underutilized land presently served by existing utilities and essential public services (e.g., transit, streets, water, sewer);
- Include transit-supportive densities (minimum of 20 residential dwelling units/acre), or are in proximity to existing transit (within a half mile), or satisfy more detailed and stringent criteria specified in the region's Sustainable Communities Strategy (SCS), for "SCS consistency" that would go further to reduce emissions;
- Do not result in the loss or conversion of the state's natural and working lands;

- Use all electric appliances, without any natural gas connections, and would not use propane or other fossil fuels for space heating, water heating, or indoor cooking;
- Provide electric vehicle (EV) charging infrastructure at least in accordance with the California Green Building Standards Code (CalGreen) Tier 2 standards; and
- Relax parking requirements by:
  - Eliminating parking requirements or including maximum allowable parking ratios.
  - Providing residential parking supply at a ratio of <1 parking space per unit;
  - Unbundling residential parking costs from costs to rent or lease (CARB 2022).

The second approach to project-level alignment with State climate goals is net-zero GHG emissions. The third approach to demonstrating project-level alignment with State climate goals is to align with GHG thresholds of significance, which many local air quality management districts (AQMDs) and air pollution control districts (APCDs) have developed or adopted (CARB 2022).

Assembly Bill 1279

On August 31, 2022, the California Legislature passed AB 1279, which requires California to achieve net-zero GHG emissions no later than 2045 and to achieve and maintain negative GHG emissions thereafter. Additionally, AB 1279 also establishes a GHG emissions reduction goal of 85 percent below 1990 levels by 2045. CARB will be required to update the scoping plan to identify and recommend measures to achieve the net-zero and GHG emissions-reduction goals.

Senate Bill 375

SB 375, the Sustainable Communities and Climate Protection Act, was adopted in 2008 to connect the GHG emissions-reduction targets established in the 2008 Scoping Plan for the transportation sector to local land use decisions that affect travel behavior. Its intent is to reduce GHG emissions from light-duty trucks and automobiles (excludes emissions associated with goods movement) by aligning regional long-range transportation plans, investments, and housing allocations to local land use planning to reduce VMT and vehicle trips. Specifically, SB 375 required CARB to establish GHG emissions-reduction targets for each of the 18 metropolitan planning organizations (MPO). Butte County Association of Governments (BCAG) is the MPO for Butte County and the cities of Biggs, Chico, Gridley, Oroville, and the Town of Paradise. Pursuant to the recommendations of the Regional Transportation Advisory Committee, CARB adopted per-capita reduction targets for each of the MPOs rather than a total magnitude reduction target.

2017 Update to the SB 375 Targets

CARB is required to update the targets for the MPOs every eight years. In June 2017, CARB released updated targets and technical methodology and released another update in February 2018, which became effective in October 2018. CARB adopted the updated targets and methodology on March 22, 2018. All SCSs adopted after October 1, 2018, are subject to these new targets. The updated targets consider the need to further reduce VMT, as identified in the 2017 Scoping Plan Update, while balancing the need for additional and more flexible revenue sources to incentivize positive planning and action toward sustainable communities.

Like the 2010 targets, the updated SB 375 targets are in units of percent per capita reduction in GHG emissions from automobiles and light trucks compared to 2005. This excludes reductions anticipated from implementation of state technology and fuels strategies and any potential future state strategies, such as statewide road user pricing. The proposed targets call for greater per-capita GHG emission reductions from SB 375 than are currently in place, which for 2035 translates into proposed targets that either match or exceed the emission-reduction levels in the MPOs' currently adopted SCS. As proposed, CARB staff's proposed targets would result in an additional reduction of over 8 $MMTCO_2e$ in 2035 compared to the current targets. For the next round of SCS updates, CARB's updated targets for the BCAG region are a 6 percent per-capita GHG reduction in 2020 from 2005 levels (compared to the positive 1 percent of the 2010 target) and a 7 percent per-capita GHG reduction in 2035 from 2005 levels (compared to the positive 1 percent of the 2010 target) (CARB 2018).

Butte County Association of Governments Regional Transportation Plan/Sustainable Communities Strategy

SB 375 requires each MPO to prepare an SCS in its regional transportation plan (RTP). For the BCAG region, the 2020 RTP/SCS was adopted on December 10, 2020. In general, the SCS outlines a development pattern for the region that, when integrated with the transportation network and other transportation measures and policies, would reduce VMT from automobiles and light-duty trucks and thereby reduce GHG emissions from these sources.

The 2020 RTP/SCS focuses on the continued efforts of the previous RTP/SCSs to integrate transportation and land-use strategies in the development of the BCAG region through the horizon year 2040 (BCAG 2020). It forecasts that the BCAG region will meet its GHG per-capita reduction targets of 6 percent by 2020 and 7 percent by 2035 by resulting in a 14 percent reduction for 2020 and an 8 percent reduction for 2035 (BCAG 2020).

Transportation Sector Specific Regulations

Assembly Bill 1493

California vehicle GHG emission standards were enacted under AB 1493 (Pavley I). Pavley I is a clean-car standard that reduces GHG emissions from new passenger vehicles (light-duty auto to medium-duty vehicles) from 2009 through 2016 and is anticipated to reduce GHG emissions from new passenger vehicles by 30 percent in 2016. California implements the Pavley I standards through a waiver granted to California by the EPA. In 2012, the EPA issued a Final Rulemaking that sets even more stringent fuel economy and GHG emissions standards for model years 2017 through 2025 light-duty vehicles. (See also the previous discussion in federal regulations under "Update to Corporate Average Fuel Economy CAFE) Standards.") In January 2012, CARB approved the Advanced Clean Cars program (formerly known as Pavley II) for model years 2017 through 2025. The program combines the control of smog, soot, and GHGs with requirements for greater numbers of ZE vehicles into a single package of standards. Under California's Advanced Clean Car program, by 2025, new automobiles will emit 34 percent less GHG emissions and 75 percent less smog-forming emissions (CARB 2017a).

Executive Order S-01-07

On January 18, 2007, the state set a new LCFS for transportation fuels sold in the state. EO S-01-07 set a declining standard for GHG emissions measured in CO_2e gram per unit of fuel energy sold in California. The LCFS required a reduction of 2.5 percent in the carbon intensity of California's transportation fuels by 2015 and a reduction of at least 10 percent by 2020. The standard applied to refiners, blenders, producers, and importers of transportation fuels, and used market-based mechanisms to allow these providers to choose the most economically feasible methods for reducing emissions during the "fuel cycle."

Executive Order B-16-2012

On March 23, 2012, the state identified that CARB, the California Energy Commission (CEC), the Public Utilities Commission, and other relevant agencies worked with the Plug-in Electric Vehicle Collaborative and the California Fuel Cell Partnership to establish benchmarks to accommodate ZE vehicles in major metropolitan areas, including infrastructure to support them (e.g., EV charging stations). EO B-16-2012 also directed the number of ZE vehicles in California's state vehicle fleet to increase through the normal course of fleet replacement so that at least 10 percent of fleet purchases of light-duty vehicles are ZE by 2015 and at least 25 percent by 2020. The EO also established a target for the transportation sector of reducing GHG emissions to 80 percent below 1990 levels.

Executive Order N-79-20

On September 23, 2020, Governor Newsom signed EO N-79-20, whose goal is that 100 percent of in-state sales of new passenger cars and trucks will be ZE by 2035. Additionally, the fleet goals for trucks are that 100 percent of drayage trucks are ZE by 2035, and 100 percent of medium- and heavy-duty vehicles in the state are ZE by 2045, where feasible. The EO's goal for the state is to transition to 100 percent ZE off-road vehicles and equipment by 2035, where feasible. On August 25, 2022, CARB adopted the Advanced Clean Cars II (ACC II) regulations that codifies the EO goal of 100 percent of in-state sales of new passenger vehicles and trucks be ZE by 2035. Starting in year 2026, ACC II requires that 35 percent of new vehicles sold be ZE or plug-in hybrids.

Renewables Portfolio: Carbon Neutrality Regulations

Senate Bills 1078, 107, and X1-2 and Executive Order S-14-08

A major component of California's Renewable Energy Program is the renewables portfolio standard established under SBs 1078 (Sher) and 107 (Simitian). Under the RPS, certain retail sellers of electricity were required to increase the amount of renewable energy each year by at least 1 percent to reach at least 20 percent by December 30, 2010. EO S-14-08, signed in November 2008, expanded the state's renewable energy standard to 33 percent renewable power by 2020. This standard was adopted by the legislature in 2011 (SB X1-2). Renewable sources of electricity include wind, small hydropower, solar, geothermal, biomass, and biogas. The increase in renewable sources for electricity production decreases indirect GHG emissions from development projects because electricity production from renewable sources is generally considered carbon neutral.

Senate Bill 350

SB 350 (de Leon) was signed into law in September 2015 and establishes tiered increases to the RPS—40 percent by 2024, 45 percent by 2027, and 50 percent by 2030. SB 350 also set a new goal to double the energy-efficiency savings in electricity and natural gas through energy efficiency and conservation measures.

Senate Bill 100

On September 10, 2018, Governor Brown signed SB 100. Under SB 100, the RPS for public-owned facilities and retail sellers consists of 44 percent renewable energy by 2024, 52 percent by 2027, and 60 percent by 2030. SB 100 also established a new RPS requirement of 50 percent by 2026. Furthermore, the bill establishes an overall state policy that eligible renewable energy resources and zero-carbon resources supply 100 percent of all retail sales of electricity to California end-use customers and 100 percent of electricity procured to serve all state agencies by December 31, 2045. Under the bill, the state cannot increase carbon emissions elsewhere in the western grid or allow resource shuffling to achieve the 100 percent carbon-free electricity target.

Senate Bill 1020

SB 1020 was signed into law on September 16, 2022. It requires renewable energy and zero-carbon resources to supply 90 percent of all retail electricity sales by 2035 and 95 percent by 2040. Additionally, SB 1020 requires all state agencies to procure 100 percent of electricity from renewable energy and zero-carbon resources by 2035.

Energy Efficiency

California Building Energy Code: Building Energy-Efficiency Standards

Energy conservation standards for new residential and nonresidential buildings were adopted by the California Energy Resources Conservation and Development Commission (now the CEC) in June 1977 (Title 24, Part 6, of the California Code of Regulations [CCR]). Title 24 requires the design of building shells and building components to conserve energy. The standards are updated periodically to allow for the consideration and possible incorporation of new energy-efficiency technologies and methods. The 2019 Building Energy Efficiency Standards were adopted on May 9, 2018, and went into effect on January 1, 2020.

The 2019 standards move toward cutting energy use in new homes by more than 50 percent and require the installation of solar photovoltaic systems for single-family homes and multifamily buildings of three stories and less. The 2019 standards focus on four key areas: (1) smart residential photovoltaic systems; (2) updated thermal envelope standards (preventing heat transfer from the interior to the exterior and vice versa); (3) residential and nonresidential ventilation requirements; (4) and nonresidential lighting requirements (CEC 2018a). Under the 2019 standards, nonresidential buildings are 30 percent more energy efficient than under the 2016 standards, and single-family homes are 7 percent more energy efficient (CEC 2018b). When accounting for the electricity generated by the solar photovoltaic system, single-family homes would use 53 percent less energy compared to homes built to the 2016 standards (CEC 2018b).

Furthermore, on August 11, 2021, the CEC adopted the 2022 Building Energy Efficiency Standards, which were subsequently approved by the California Building Standards Commission in December 2021. The 2022 standards become effective and replace the existing 2019 standards on January 1, 2023. The 2022 standards would require mixed-fuel single-family homes to be electric-ready to accommodate replacement of gas appliances with electric appliances. In addition, the new standards also include prescriptive photovoltaic system and battery requirements for high-rise, multifamily buildings (i.e., more than three stories) and noncommercial buildings such as hotels, offices, medical offices, restaurants, retail stores, schools, warehouses, theaters, and convention centers (CEC 2021).

California Building Code: CALGreen

On July 17, 2008, the California Building Standards Commission adopted the nation's first green building standards. The California Green Building Standards Code (24 CCR, Part 11, known as "CALGreen") was adopted as part of the California Building Standards Code. CALGreen established planning and design standards for sustainable site development, energy efficiency (in excess of the California Energy Code requirements), water conservation, material conservation, and internal air contaminants.[4] The mandatory provisions of CALGreen became effective January 1, 2011, and were last updated in 2019. The 2019 CALGreen standards became effective on January 1, 2020.

2006 Appliance Efficiency Regulations

The 2006 Appliance Efficiency Regulations (20 CCR Sections 1601–1608) were adopted by the CEC on October 11, 2006, and approved by the California Office of Administrative Law on December 14, 2006. The regulations include standards for both federally regulated appliances and non-federally regulated appliances. Though these regulations are now often viewed as "business as usual," they exceed the standards imposed by all other states, and they reduce GHG emissions by reducing energy demand.

Solid Waste Diversion Regulations

AB 939: Integrated Waste Management Act of 1989

California's Integrated Waste Management Act of 1989 (AB 939, Public Resources Code Section 40050 et seq.) set a requirement for cities and counties throughout the state to divert 50 percent of all solid waste from landfills by January 1, 2000, through source reduction, recycling, and composting. In 2008, the requirements were modified to reflect a per-capita requirement rather than tonnage. To help achieve this, the act requires that each city and county prepare and submit a source reduction and recycling element. AB 939 also established the goal for all California counties to provide at least 15 years of ongoing landfill capacity.

[4] The green building standards became mandatory in the 2010 edition of the code.

AB 341

AB 341 (Chapter 476, Statutes of 2011) increased the statewide goal for waste diversion to 75 percent by 2020 and requires recycling of waste from commercial and multifamily residential land uses. Section 5.408 of CALGreen also requires that at least 65 percent of the nonhazardous construction and demolition waste from nonresidential construction operations be recycled and/or salvaged for reuse.

AB 1327

The California Solid Waste Reuse and Recycling Access Act (AB 1327, Public Resources Code Section 42900 et seq.) requires areas to be set aside for collecting and loading recyclable materials in development projects. The act required the California Integrated Waste Management Board to develop a model ordinance for adoption by any local agency requiring adequate areas for collection and loading of recyclable materials as part of development projects. Local agencies are required to adopt the model or an ordinance of their own.

AB 1826

In October 2014, Governor Brown signed AB 1826 requiring businesses to recycle their organic waste on and after April 1, 2016, depending on the amount of waste they generate per week. This law also requires that on and after January 1, 2016, local jurisdictions across the state implement an organic waste recycling program to divert organic waste generated by businesses and multifamily residential dwellings with five or more units. Organic waste means food waste, green waste, landscape and pruning waste, nonhazardous wood waste, and food-soiled paper waste that is mixed with food waste.

Water Efficiency Regulations

SBX7-7

The 20x2020 Water Conservation Plan was issued by the Department of Water Resources (DWR) in 2010 pursuant to SB 7, which was adopted during the 7th Extraordinary Session of 2009–2010 and therefore dubbed "SBX7-7." SBX7-7 mandated urban water conservation and authorized the DWR to prepare a plan implementing urban water conservation requirements (20x2020 Water Conservation Plan). In addition, it required agricultural water providers to prepare agricultural water management plans, measure water deliveries to customers, and implement other efficiency measures. SBX7-7 required urban water providers to adopt a water conservation target of a 20 percent reduction in urban per-capita water use by 2020 compared to 2005 baseline use.

AB 1881: Water Conservation in Landscaping Act

The Water Conservation in Landscaping Act of 2006 (AB 1881) requires local agencies to adopt the updated DWR model ordinance or an equivalent. AB 1881 also requires the CEC to consult with the DWR to adopt, by regulation, performance standards and labeling requirements for landscape irrigation equipment, including irrigation controllers, moisture sensors, emission devices, and valves, to reduce the wasteful, uneconomic, inefficient, or unnecessary consumption of energy or water.

Short-Lived Climate Pollutant Reduction Strategy

On September 19, 2016, the Governor signed SB 1383 to supplement the GHG reduction strategies in the Scoping Plan to consider short-lived climate pollutants, including black carbon and methane. Black carbon is the light-absorbing component of fine particulate matter produced during the incomplete combustion of fuels. SB 1383 required the state board, no later than January 1, 2018, to approve and begin implementing a comprehensive strategy to reduce emissions of short-lived climate pollutants to achieve a reduction in methane by 40 percent, hydrofluorocarbon gases by 40 percent, and anthropogenic black carbon by 50 percent below 2013 levels by 2030. The bill also established targets for reducing organic waste in landfills. On March 14, 2017, CARB adopted the Short-Lived Climate Pollutant Reduction Strategy, which identifies the state's approach to reducing anthropogenic and biogenic sources of short-lived climate pollutants. Anthropogenic sources of black carbon include on- and off-road transportation, residential wood burning, fuel combustion (charbroiling), and industrial processes. According to CARB, ambient levels of black carbon in California are 90 percent lower than in the early 1960s, despite the tripling of diesel fuel use (CARB 2017b). In-use on-road rules were expected to reduce black carbon emissions from on-road sources by 80 percent between 2000 and 2020.

Local Regulations

Butte County General Plan 2030

The following policies are included in the existing General Plan regarding greenhouse gas emissions. The numbering is from the existing General Plan and therefore may not be consecutive.

Land Use Element

- Goal LU-3 Create communities where there is a sense of well-being where families and neighbors can socialize, interact, and play.
    - LU-P3.2 Newly developed neighborhoods shall include parks and recreation facilities. Sidewalks, bike paths, and other routes shall provide circulation to surrounding areas.
- Goal LU-4 Provide high-quality housing in a range of residential densities and types.
    - LU-P4.2 Residentially-designated land with High Density Residential and Very High Density Residential land use designations shall be developed at or above the minimum density range.
    - LU-P4.3 Generally, higher density housing shall be located along collector and arterial streets and within easy walking distance of public facilities.
- Goal LU-6 Provide adequate land for the development of public and quasipublic uses, as a means to provide necessary public services and facilities in support of existing and new residential, commercial, and industrial land uses.
    - LU-P6.3 New County government buildings and other public and quasi-public uses, such as hospitals, meeting halls, and private schools, shall be located in existing urbanized areas in convenient, central locations that provide maximum access for the maximum number of residents.

- LU-P6.4 Development projects that provide lands for private open spaces, parks, community service facilities, such as places of worship and daycare facilities, and public facilities may be allowed to transfer density to other portions of the site.

- Goal LU-8 Promote development near existing infrastructure and services, and within already-developed areas.
  - LU-P8.2 The County shall direct projected growth to areas where the appropriate level of transportation infrastructure is or will be available during the planning period.
  - LU-P8.5 Stores providing goods and services to support daily life in neighborhoods should be located within walking distance to the majority of neighborhoods.

Economic Development Element

- Goal ED-2 Promote and support the local agricultural economic sector.
  - ED-P2.6 The County supports programs and projects that would help Butte County farmers provide carbon offsets, if and when new regulations require industries to provide carbon offsets.
  - ED-P2.7 The County supports programs and projects that utilize agricultural by-products for "green" building material production and/or renewable energy production, such as using straw bales for building or converting rice straw to bio-fuels.

Water Resources Element

- Goal W-4 Promote water conservation as an important part of a long-term and sustainable water supply.
  - W-P4.1 Agricultural and urban water use efficiency shall be promoted.
  - W-P4.2 Water conservation efforts of local Resource Conservation Districts, the Natural Resource Conservation Service and irrigation districts should be coordinated.
  - W-P4.3 The County shall work with municipal and industrial water purveyors to implement water conservation policies and measures.
  - W-P4.4 Opportunities to recover and utilize wastewater for beneficial purposes shall be promoted and encouraged.
  - W-P4.5 The use of reclaimed wastewater for non-potable uses shall be encouraged, as well as dual plumbing that allows graywater from showers, sinks and washers to be reused for landscape irrigation in new developments.
  - W-P4.6 New development projects shall adopt best management practices for water use efficiency and demonstrate specific water conservation measures.
  - W-P4.7 County facilities shall adopt water conservation measures and when appropriate retrofit existing facilities to improve water conservation.

Circulation Element

- Goal CIR-2 Plan for transportation modes and strategies that ensure good air quality, reduce greenhouse gas emissions, reduce petroleum consumption and reduce the need to devote additional lands to transportation uses.
    - CIR-P2.1 Carpooling shall be encouraged by providing additional carpool pickup and park-and-ride locations near transit centers and at freeway interchanges.
    - CIR-P2.2 Trip reduction among County employees shall be encouraged. Specific measures to encourage trip reduction could include providing subsidies, bicycle facilities, alternative work schedules, ridesharing, telecommuting and work-at-home programs, employee education and preferential parking for carpools/vanpools.
    - CIR-P2.3 Home occupations shall be encouraged through streamlined application processes that are appropriate to the intensity and proposed uses of the home business.
    - CIR-P2.4 Employers shall be encouraged to provide transit subsidies, bicycle facilities, alternative work schedules, ridesharing, telecommuting and work-at-home programs, employee education and preferential parking for carpools/vanpools.
    - CIR-P2.5 Transportation corridors for renewable energy transmission and for new transit lines shall be preserved.
    - CIR-P2.6 The County shall incorporate "Complete Streets" policies that are designed and built to be safe for all users, including pedestrians, bicyclists and transit users.
    - CIR-P2.7 Where feasible and appropriate, and where non-motorized travel is reasonably expected, the width of existing streets shall be reduced through bulb outs, medians, pedestrian islands and similar methods, and planting shade trees in landscaped areas within and adjacent to streets, while not jeopardizing emergency response and future capacity requirements as determined by the Butte County Fire Department and Public Works Department.

Conservation and Open Space Element

- Goal COS-1 Reduce greenhouse gas emissions to 1990 levels by 2020.
    - COS-P1.1 Greenhouse gas emission impacts from proposed development projects shall be evaluated as required by the California Environmental Quality Act.
    - COS-P1.2 New development projects shall mitigate greenhouse gas emissions on-site or as close to the site as possible.
    - COS-P1.3 New development should use recycled-content construction materials.
    - COS-P1.4 New development should provide above-ground and natural stormwater facilities and use building designs and materials that promote groundwater recharge.
    - COS-P1.5 New developments should have street systems that support the use of Neighborhood Electric Vehicles (NEV).

- COS-P1.6 Recognize and promote the emerging market for agricultural producers to provide carbon sequestration services.
- COS-P1.7 New commercial and institutional development projects shall provide prioritized parking for electric vehicles, hybrid vehicles, alternative fuel vehicles and carpools.

- Goal COS-2 Promote green building, planning and business.
  - COS-P2.1 County staff shall work cooperatively with the municipalities to ensure consistent standards for green building codes and other methods to reduce greenhouse gas emissions throughout the county.
  - COS-P2.2 New development shall comply with Green Building Standards adopted by the California Building Standards Commission at the time of building permit application, including requirements about low- or no-toxicity building materials.
  - COS-P2.3 All new County buildings and major renovations designed for public access and/or primary workspace shall meet, at a minimum, LEED-Silver or equivalent and the County shall use these buildings to demonstrate green building practices to builders, developers, homeowners and others. Minor buildings of an accessory nature that are not used as public spaces and that do not serve as a primary work space are not required to meet LEED-Silver or equivalent, but shall implement practical building design, construction, and maintenance solutions as set forth under the LEED rating system or equivalent.
  - COS-P2.4 All new subdivisions and developments should meet green planning standards such as LEED for Neighborhood Design.

- Goal COS-5 Minimize air pollutant emissions.
  - COS-P5.1 Air quality planning efforts shall be coordinated with local, regional and State agencies, and shall encourage community participation in air quality planning.
  - COS-P5.2 Developers shall implement best available mitigation measures to reduce air pollutant emissions associated with the construction and operation of development projects.
  - COS-P5.3 Only EPA Phase II certified wood burning or equivalent devices maybe installed in any residential projects.
  - COS-P5.4 Stationary air pollutant emission sources, such as factories, shall be located more than 500 feet and/or downwind from residential areas and other sensitive receptors.
  - COS-P5.5 Residential developments and other projects with sensitive receptors shall be located more than 500 feet from stationary air pollutant sources. Residential developments and other projects with sensitive receptors (e.g. housing, schools, child care centers, playgrounds, hospitals, and senior centers) that are located within 500 feet of a high-volume roadway that carries over 50,000 vehicles per day shall incorporate feasible mitigation measures to protect sensitive receptors from harmful

concentrations of air pollutants, as recommended in the California Air Resources Board's (CARB's) Air Quality and Land Use Handbook.

- COS-P5.6 New sources of toxic air pollutants shall comply with the permitting requirements of the Butte County Air Quality Management District and Section 44300 et. seq. of the California Health and Safety Code.
- COS-P5.7 The County shall cooperate with Butte County Air Quality Management District in efforts to reduce traffic-related emissions below levels that violate national ambient air quality standards in Butte County.
- COS-P5.8 The County shall encourage the Butte County Air Quality Management District to work in partnership with fire managers to balance natural resource needs (e.g. prescribed burning) with air quality needs.

Butte County Air Quality Management District

The Butte County Air Quality Management District (BCAQMD) is the local air district responsible for local air quality regulation in Butte County. The BCAQMD's primary responsibility is to regulate stationary sources and develop plans to achieve and maintain air quality standards. CARB and the U.S. EPA have jurisdiction over controlling emissions from mobile sources. The BCAQMD has jurisdiction over air quality matters in Butte County. Formerly a department of the Butte County government, it is now an independent special district under California law.

BCAQMD's mission to improve air quality includes adopting and enforcing rules and regulations to attain and maintain air quality standards, issuing permits for and inspecting stationary sources of air pollutants, responding to citizen complaints, monitoring air quality and meteorological conditions, awarding grants to reduce mobile emissions, implementing public outreach campaigns, assisting Butte County jurisdictions in addressing climate change, and updating and evaluating consistency with the Northern Sacramento Valley Air Quality Attainment Plan.

The stationary "direct" sources of air contaminants over which the BCAQMD has permit authority include, but are not limited to, power plants, gasoline stations, dry cleaners, internal combustion engines, and surface coating operations. BCAQMD does not, however, exercise permit authority over "indirect" emission sources. Indirect sources are contributors to air pollution and include facilities and land uses that may not emit significant amounts of pollution directly themselves, but are responsible for indirect emissions, such as:

- Motor vehicle trips attracted to or generated by a land use;
- On-site combustion of natural gas and propane for heating;
- Architectural coatings (paints, stains) and consumer products; and
- Landscape maintenance.

The BCAQMD works with BCAG to ensure a coordinated approach in the development and implementation of transportation plans throughout the county. This coordination ensures compliance with pertinent provisions of the Clean Air Act and California Clean Air Act, as well as with related transportation legislation.

Butte County Climate Action Plan

The Butte County Board of Supervisors approved the County's first Climate Action Plan (CAP) on February 25, 2014. Butte County General Plan 2030 directed preparation, adoption, and implementation of the CAP to assist the State of California in meeting the GHG reduction goals for 2020. The CAP incorporates programs and actions to reduce GHG emissions, address climate change adaptation, improve community resilience to hazardous conditions associated with climate change, and improve quality of life in the county. The County updated the CAP in 2021 to include reduction targets for 2030 and 2050 along with reductions strategies and an implementation program to achieve the targets. The latest 2021 CAP is projected to reduce Butte County's GHG emissions to 512,940 $MTCO_2e$ by 2030 and 195,660 $MTCO_2e$ by 2050. This would reduce emissions to 40 percent below 1990 levels by 2030, and to 80 percent below 1990 levels by 2050 (Butte County 2021).

5.8.1.3 EXISTING CONDITIONS

California's GHG Sources and Relative Contribution

In 2021, the statewide GHG emissions inventory was updated for 2000 to 2019 emissions using the GWPs in IPCC's AR4 (IPCC 2013). Based on these GWPs, California produced 418.2 $MMTCO_2e$ GHG emissions in 2019. California's transportation sector was the single-largest generator of GHG emissions, producing 39.7 percent of the state's total emissions. Industrial sector emissions made up 21.1 percent, and electric power generation made up 14.1 percent of the state's emissions inventory. Other major sectors of GHG emissions include commercial and residential (10.5 percent), agriculture and forestry (7.6 percent), high GWP (4.9 percent), and recycling and waste (2.1 percent) (CARB 2021).

Since the peak level in 2004, California's GHG emissions have generally followed a decreasing trend. In 2016, California statewide GHG emissions dropped below the AB 32 target for year 2020 of 431 $MMTCO_2e$ and have remained below this target since then. In 2019, emissions from routine GHG-emitting activities statewide were almost 13 $MMTCO_2e$ lower than the AB 32 target for year 2020. Per-capita GHG emissions in California have dropped from a 2001 peak of 14.0 $MTCO_2e$ per person to 10.5 $MTCO_2e$ per person in 2019, a 25 percent decrease.

Transportation emissions continued to decline in 2019 statewide as they had done in 2018, with even more substantial reductions due to a significant increase in renewable diesel. Since 2008, California's electricity sector has followed an overall downward trend in emissions. In 2019, solar power generation continued its rapid growth since 2013. Emissions from high-GWP gases made up 4.9 percent of California's emissions in 2019. This continues the increasing trend as the gases replace ozone-depleting substances being phased out under the 1987 Montreal Protocol. Overall trends in the inventory also demonstrate that the carbon intensity of California's economy (the amount of carbon pollution per million dollars of gross domestic product) has declined 45 percent since the 2001 peak, though the state's gross domestic product grew 63 percent during this period (CARB 2021).

Existing Communitywide GHG Emissions

Table 5.8-4, *Existing Butte County GHG Emissions Inventory*, shows the total GHG emissions in 2019 for Butte County. The shown emissions are based on the emissions inventory prepared for the County's 2021 CAP.

TABLE 5.8-4 EXISTING BUTTE COUNTY GHG EMISSIONS INVENTORY

Sector	2019 $MTCO_2e$	Percentage of Total
Residential energy	90,720	9%
Nonresidential energy	37,350	4%
Transportation	229,110	23%
Solid waste	61,120	6%
Water and wastewater	16,960	2%
Agriculture	501,620	50%
Off-road equipment	59,310	6%
Total Annual	**996,190**	**100%**
Land use and sequestration	(346,340)	—
Total Annual (with land use and sequestration)	**649,860**	**—**
Informational Items		
Wildfire and controlled burns[1]	*15,730*	—
Stationary sources	*108,259*	—

Notes: All numbers are rounded to the nearest 10; ( ) = negative value.
[1] Includes emissions from the Swedes and Forbestown fires.
Source: Butte County 2021.

In 2019, the agriculture sector accounted for the largest share of GHG emissions in Butte County, with 50 percent of emissions. The transportation sector accounted for approximately 23 percent of emissions. Residential energy accounted for approximately 9 percent of total emissions, while solid waste and off-road equipment each made up 6 percent of total emissions. Nonresidential energy accounted for 4 percent of emissions while water and wastewater accounted for approximately 2 percent.

5.8.2 STANDARDS OF SIGNIFICANCE

The proposed project would result in a significant GHG emissions impact if it would:

1. Generate greenhouse gas emissions, either directly or indirectly, that may a significant effect on the environment.
2. Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases.
3. In combination with past, present, and reasonably foreseeable projects, result in cumulative impacts with respect to greenhouse gas emissions.

5.8.2.1 CONSISTENCY WITH STATEWIDE GHG REDUCTION TARGETS

The General Plan Update forecasts growth in Butte County through year 2040; therefore, this environmental impact report (EIR) analyzes the potential for the proposed project to conflict with statewide GHG reduction goals identified in the CARB Scoping Plan that are applicable to local governments. These include AB 1279, which requires an 85 percent reduction in GHG emissions by 2045 to stabilize CO_2e emissions and avoid the most catastrophic impacts of climate change as well as substantial progress toward the State's net-zero emissions goal by 2045 under AB 1279.[5]

5.8.2.2 MASS EMISSIONS AND HEALTH EFFECTS

On December 24, 2018, in *Sierra Club et al. v. County of Fresno et al.* (Friant Ranch), the California Supreme Court determined that the EIR for the proposed Friant Ranch project failed to adequately analyze the project's air quality impacts on human health. The EIR prepared for the project, which involved a master planned retirement community in Fresno County, showed that project-related mass emissions would exceed the San Joaquin Valley Air Pollution Control District's regional significance thresholds. In its findings, the California Supreme Court affirmed the holding of the Court of Appeal that EIRs for projects must not only identify impacts to human health, but also provide an "analysis of the correlation between the project's emissions and human health impacts" related to each criterion air pollutant that exceeds the regional significance thresholds or explain why it could not make such a connection. In general, the ruling focuses on the correlation of emissions of toxic air contaminants and criteria air pollutants and their impact to human health.

In 2009, the EPA issued an endangerment finding for six GHGs (CO_2, CH_4, N_2O, HFCs, PFCs, and SF_6) to regulate GHG emissions from passenger vehicles. The endangerment finding is based on evidence that shows an increase in mortality and morbidity associated with increases in average temperatures, which increase the likelihood of heatwaves and ozone levels. The effects of climate change are identified in Table 5.8-2. Though identified effects such as sea-level rise and increased extreme weather can indirectly impact human health, neither the EPA nor CARB has established ambient air quality standards for GHG emissions. The state's GHG reduction strategy outlines a path to avoid the most catastrophic effects of climate change. Yet the state's GHG reduction goals and strategies are based on the state's path toward reducing statewide cumulative GHGs as outlined in AB 32, SB 32, AB 1279, EO S-03-05, and EO B-55-18.

[5] The 2022 Scoping Plan update includes statewide measures to achieve the state's carbon neutrality goals under Executive Order B-55-18, such as carbon dioxide removal (CDR) that are not applicable to local governments. Carbon neutrality goals are a "no impact" level and not a "less-than-significant" impact level for climate change effects. There are presently no reliable means of forecasting how future technological developments related to carbon dioxide removal may affect future emissions in a planning jurisdiction. Therefore, carbon neutrality targets are not directly applicable to local governments and CEQA projects to mitigate GHG emissions impacts of a proposed project. Moreover, Executive Order S-03-05 GHG reduction targets for 2050 are in line with the scientifically established levels needed in the U.S. to limit global warming below 1.5 to 2.0 degrees Celsius, the warming threshold at which scientists say there will likely be major climate disruptions such as super droughts and rising sea levels. For these reason, the targets of Executive Order S-03-05 are applicable to the CCAP. However, the CCAP includes measures that align with the state's carbon neutrality goals under Executive Order B-55-18.

As mentioned previously, the two significance thresholds that the County uses to analyze GHG impacts are based on achieving the statewide GHG reduction goals (GHG-1) and relying on consistency with policies or plans adopted to reduce GHG emissions (GHG-2). Further, because no single project is large enough to result in a measurable increase in global concentration of GHG emissions, climate change impacts of a project are considered on a cumulative basis. Without federal ambient air quality standards for GHG emissions and given the cumulative nature of GHG emissions and the County's significance thresholds, which are tied to reducing the state's cumulative GHG emissions, it is not feasible at this time to connect the project's specific GHG emissions to the potential health impacts of climate change.

5.8.3 PROPOSED GENERAL PLAN POLICIES

The following are relevant policies of the Butte County General Plan Update, which may contribute to the reduction of GHG emissions as a result of implementation of the proposed project.

Land Use Element

- LU-P3.1: The County shall encourage housing that meets the needs of the local workforce, jobs that are suitable for local residents, and programs that reduce commuting and improve opportunities to live and work in the same community.
- LU-P3.3: Newly-developed neighborhoods shall include parks and recreation facilities. Sidewalks, bike paths, and other routes shall provide circulation to surrounding areas.
- LU-P4.3: Generally, higher density housing shall be along collector and arterial streets and within easy walking distance of public facilities.
- LU-P8.5: Stores providing goods and services to support daily life in neighborhoods should be within walking distance to the majority of neighborhoods.
- LU-P8.6: The County shall encourage the construction of housing near employment centers, along with additional employment-generating uses near areas that are primarily residential.
- LU-P8.7: Land use patterns and development shall support the State's ability to achieve its vehicle miles traveled (VMT) and greenhouse gas (GHG) reduction goals, and the County's own VMT thresholds of significance.

Health and Safety Element

- HS-P19.1: The County supports physical infrastructure that encourages active transportation, such as bike paths, walking paths, and trails to promote public health.
- HS-P19.2: The County shall promote opportunities for physical activities, such as walking and biking, and encourage patterns of new development that promote physical activity and encourage bicycling, walking, and transit.
- HS-P21.1: The County supports the development of community and neighborhood microgrids that use renewable energy sources, including energy storage, which can provide sustainable and reliable electricity supply that is not shut off during PSPS events.

Environmental Justice Element

- EJ-P2.1: The County shall prioritize improvements to bikeways and sidewalks that are in Communities of Opportunity to make active transportation more accessible, user friendly, and safer in these communities.
- EJ-P2.3: The County shall encourage development in Communities of Opportunity that combines employment, housing, and services close to transit facilities.
- EJ-P2.4: The County shall work with transit providers to expand the hours of transit operation, operational boundaries, convenience, and quality of transit services that connect Communities of Opportunity with educational and economic opportunities, medical services, and other needed goods and services.
- EJ-P2.5: The County shall encourage transit providers to offer small or less frequent buses on routes with low passenger demand and connections between unincorporated and incorporated bus routes, with a focus on bridging service gaps in Communities of Opportunity.
- Ej-P2.6: The County shall provide support to carpooling and vanpooling programs, particularly among Communities of Opportunity, such as by assisting with outreach and program facilitation.
- EJ-P5.4: The County shall support efforts to retrofit existing housing units in Communities of Opportunity with improvements that reduce indoor air and noise pollution and improve energy efficiency.
- EJ-P8.3: The County supports the development of high-quality, local jobs within and near Communities of Opportunity to reduce long commutes and resultant vehicle emissions.

Economic Development Update

- ED-P2.7: The County supports programs and projects that utilize agricultural by-products for "green" building material production and/or renewable energy production, such as using straw bales for building or converting rice straw to biofuels.

Conservation and Open Space Element

- COS-P1.1: Greenhouse gas emission impacts from proposed development projects shall be evaluated as required by the California Environmental Quality Act.
- COS-P1.2: New development projects shall mitigate greenhouse gas emissions on-site or as close to the site as possible.
- COS-P1.5: The County supports use of neighborhood electric vehicles (EVs), such as low-speed golf carts or other personal neighborhood EVs.
- COS-P1.6: The County shall explore techniques to maximize carbon sequestration of the county's natural and working lands.
- COS-P1.7: New development projects shall provide electric vehicle charging stations and prioritized parking for electric vehicles, hybrid vehicles, alternative fuel vehicles and carpools.
- COS-P1.8: The County shall reduce emissions from disposal and decomposition of organic waste.

- COS-P1.9: The County supports development of alternative technologies to derive fuel or energy from green waste and reduce air pollution by processing green waste.
- COS-P2.1: County staff shall work cooperatively with the municipalities to ensure consistent standards for green building codes and other methods to reduce greenhouse gas emissions throughout the county.
- COS-P2.2: New development shall comply with Green Building Standards adopted by the California Building Standards Commission at the time of building permit application, including requirements about low- or no-toxicity building materials.
- COS-P2.3: All new County buildings and major renovations designed for public access and/or primary workspace shall meet, at a minimum, LEED-Silver or equivalent and the County shall use these buildings to demonstrate green building practices to builders, developers, homeowners, and others. Minor buildings of an accessory nature that are not used as public spaces and that do not serve as a primary workspace are not required to meet LEED-Silver or equivalent, but shall implement practical building design, construction, and maintenance solutions as set forth under the LEED rating system or equivalent.
- COS-P2.4: All new subdivisions and developments should meet green planning standards such as LEED for Neighborhood Design.
- COS-P2.5: The County shall work with property owners and property management groups to increase overall building electrification and adoption of modern, efficient appliances in residential rental properties.
- COS-P3.1: The expansion and increased efficiency of hydroelectric power plants in the county is encouraged, provided that such plants can be expanded and that significant adverse environmental impacts associated with such plants can be successfully mitigated.
- COS-P3.2: The development of renewable energy sources in the county shall be encouraged, provided that such fuel sources can be built or expanded and that significant adverse environmental impacts associated with such development can be successfully mitigated.
- COS-P3.3: The County supports the introduction and implementation of Butte Choice Energy, the County's community choice aggregation program.
- COS-P3.4: The County shall promote and incentivize small-scale, on-site renewable energy and storage systems for existing residential units, nonresidential buildings, and in the agricultural sector.
- COS-P3.5: The County supports efforts to increase renewable and carbon-free energy generation, including wind, solar, and biomass, and to ensure customer access to such renewable energy.
- COS-P3.7: Alternative energy sources such as solar shall continue to be used for County facilities, which set an example for others to follow.
- COS-P3.8: Wind power generation facilities, solar power generation facilities, and other alternative energy facilities shall be encouraged in all General Plan land use designations, consistent with zoning provided that significant adverse environmental impacts associated with such development can be successfully mitigated. All new proposed energy projects shall be compatible with the Military Operations Areas (MOAs) shown on Figure LU-4.

- COS-P4.1: The County shall continue efforts to promote energy conservation and efficiency opportunities for all residents, building/property owners, and renters, including support and promotion of programs for lower- income and disadvantaged populations.
- COS-P4.2: The County shall continue efforts to promote energy conservation and efficiency opportunities for all nonresidential uses, including County facilities, office space, commercial space, and industrial space.
- COS-P4.3: Energy efficiency and reduction efforts of local businesses, including agricultural businesses, shall be promoted and encouraged.
- COS-P4.4: The County shall coordinate with Pacific Gas and Electric Company (PG&E) and other utility providers to promote programs that reduce energy demand.
- COS-P4.6: The County shall work with property owners and property management groups to increase overall building electrification of new and existing development, and adoption of modern, efficient appliances in residential rental properties.
- COS-P4.7: Site and structure designs for new development projects shall maximize energy efficiency.

Circulation Element

- CIR-P2.1: Carpooling shall be encouraged at major job and activity centers by providing information on how to participate in available private and public programs.
- CIR-P2.2: Trip reduction among County employees shall be encouraged. Specific measures to encourage trip reduction could include providing subsidies, bicycle facilities, alternative work schedules, ridesharing, telecommuting and work-at-home programs, employee education, and preferential parking for carpools/vanpools.
- CIR-P2.3: Home occupations shall be encouraged through streamlined application processes that are appropriate to the intensity and proposed uses of the home business.
- CIR-P2.4: Employers shall be encouraged to provide transit subsidies, bicycle facilities, alternative work schedules, ridesharing, telecommuting and work-at-home programs, employee education and preferential parking for carpools/vanpools.
- CIR-P2.5: Transportation corridors for renewable energy transmission and for new transit lines shall be preserved.
- CIR-P2.6: The County shall incorporate “Complete Streets” policies that are designed and built to accommodate pedestrians, bicyclists, and transit users.
- CIR-P3.1: The County supports improved connections to other regional transportation services, such as rail and regional/national bus lines, to connect Butte County communities with each other.
- CIR-P3.2: A continuous, integrated, and accessible pedestrian network shall be provided in urbanized areas to encourage walking as a viable transportation mode and as a form of recreation and exercise.

- CIR-P3.3: Travel modes shall be interconnected to form an integrated, coordinated, and balanced multimodal transportation system.
- CIR-P3.4: New development projects shall provide adequate pedestrian, bicycle, and multiuse facilities in a way that integrates circulation and recreational use, commensurate with the impacts of the project, local and regional plans, and consistent with surrounding development.
- CIR-P3.5: New neighborhoods shall provide bike and pedestrian connectivity between streets.
- CIR-P3.6: Arterial and collector streets shall be designed to enhance the integrity and cohesiveness of urban neighborhoods.
- CIR-P3.7: Major residential development projects shall be designed with interconnected collector street patterns and short block lengths. Cul-de-sac and dead-end streets shall conform to County design standards.
- CIR-P3.8: Public facilities shall be located and designed to allow for convenient access from public transit and/or bicycle and pedestrian facilities.
- CIR-P4.1: The County supports public transit as a viable and attractive alternative to the use of single occupant motor vehicles.
- CIR-P4.2: The County supports improved public transit service to be determined through the public process to identify unmet needs and prioritize feasible solutions. Potential improvements could include serving an expanded geographic area, more frequent buses at key times of the day, and improved transit amenities such as bus shelters.
- CIR-P4.3: The County supports public transportation programs that promote access to shopping, employment, education, health care, and recreation.
- CIR-P4.4: The County encourages the Butte County Association of Governments to provide shuttles from local transit stations to special event centers.
- CIR-P4.5: The County continues to support local Amtrak passenger services.
- CIR-P4.6: New development projects in areas served by existing or planned transit shall provide fixed transit facilities such as bus shelters and pullouts, according to expected demand and in coordination with Butte Regional Transit.
- CIR-P5.1: Bicycle facilities shall be developed in accordance with the County's adopted Bicycle Master Plan.
- CIR-P5.2: New bicycle routes and paths shall create a bicycle environment that minimizes harm when people ride.
- CIR-P5.3: The bicycle system shall be integrated with other transportation modes by connecting bicycle routes and transit stops, providing secure bicycle parking facilities and supporting efforts to expand accommodation of bicycles aboard buses.
- CIR-P5.4: Transportation service providers shall be encouraged to incorporate bicycle storage facilities into bus stops and rail stations.

- CIR-P5.5: Construction or expansion of major arterials shall incorporate Class II bicycle facilities whenever feasible. Class III Bike routes will be considered where appropriate.
- CIR-P5.6: Residential development projects shall incorporate internal circulation networks that encourage bicycle use and that connect to the external bicycle circulation system.
- CIR-P5.7: Owners of apartment complexes and major commercial, office, industrial, and educational sites shall provide plentiful, convenient, and centrally located bicycle parking facilities.
- CIR-P5.8: All County facilities and park-and-ride lots shall provide appropriate bicycle amenities, including bicycle racks and storage facilities.

5.8.4 IMPACT DISCUSSION

5.8.4.1 METHODOLOGY

This GHG evaluation was prepared in accordance with the requirements of CEQA to determine if significant GHG impacts are likely to occur in conjunction with future development in the unincorporated county. The GHG emissions inventory and forecast is based on data compiled for the 2021 CAP update and is included as Appendix 5.8-1 to the Draft EIR. The GHG emissions inventory in the 2021 CAP was compiled using the following protocols (Butte County 2021).

- U.S. Community Protocol. The community-wide GHG inventory uses the *United States Community Protocol for Accounting and Reporting of Greenhouse Gas Emissions* (U.S. Community Protocol), which was first developed in 2012 and last updated in 2019. The California Governor's Office of Planning and Research encourages cities and counties in California to follow the U.S. Community Protocol for community-wide GHG emissions.
- Global Protocol. The *Global Protocol for Community-Scale Greenhouse Gas Inventories* (Global Protocol) was first developed in 2014 and is intended for preparing international-community-scale GHG inventories. It is largely consistent with the U.S. Community Protocol, although it contains additional guidance and resources to support a wider range of activities in other countries. This protocol is used to assess GHG emissions from sources that are not covered in the U.S. Community Protocol.

The community-wide GHG inventory assessed GHG emissions from the following 10 sectors:

- On-Road Transportation includes GHG emissions created by driving on-road vehicles in the unincorporated county, including passenger and freight vehicles.
- Residential Energy includes GHG emissions attributed to the use of electricity and natural gas, and other home heating fuels (e.g., propane) in residential buildings from Pacific Gas and Electric Company (PG&E).
- Nonresidential Energy includes GHG emissions attributed to the use of electricity and natural gas in nonresidential buildings, including buildings and facilities at agricultural operations.

- **Solid Waste** includes the GHG emissions released from trash collected in the unincorporated areas of Butte County, as well as collective annual emissions from waste already in place at the Neal Road Landfill.
- **Off-Road Equipment** includes GHG emissions from equipment that does not provide on-road transportation (excluding agricultural equipment), such as tractors for construction or equipment used for landscape maintenance.
- **Agriculture** includes GHG emissions from various agricultural activities, including agricultural equipment, crop cultivation, harvesting, and livestock operations.
- **Water and Wastewater** accounts for the electricity used to transport every gallon of water or wastewater to unincorporated county residents and businesses as well as direct emissions resulting from processing of wastewater material.
- **Land Use and Sequestration** includes GHG emissions absorbed and stored in trees and soils on locally controlled lands as part of healthy ecosystems and released into the atmosphere from development of previously undeveloped land.
- **Stationary sources** are those emitted at large industrial sites, commercial businesses, warehouses, or power plants.
- **Wildfire** includes emissions released as a result of wildfires.

Life-cycle emissions are not included in this analysis because not enough information is available, and therefore they would be speculative.[6] Black carbon emissions are not included in the GHG analysis because CARB does not include this short-lived climate pollutant in the state's GHG emissions inventory, but treats it separately.[7]

GHG Emissions Factors

Table 5.8-5, *Existing GHG Emission Factors,* shows the emissions factors for the year 2019. Some sectors, including agriculture and off-road emissions, are calculated using formulae or models and do not have specific emission factors.

[6] Life cycle emissions include indirect emissions associated with materials manufacture. However, these indirect emissions involve numerous parties, each of which is responsible for GHG emissions of their particular activity. The California Resources Agency, in adopting the CEQA Guidelines Amendments on GHG emissions found that lifecycle analyses was not warranted for project-specific CEQA analysis in most situations, for a variety of reasons, including lack of control over some sources, and the possibility of double-counting emissions (see Final Statement of Reasons for Regulatory Action, December 2009). Because the amount of materials consumed during the operation or construction of the proposed project is not known, the origin of the raw materials purchased is not known, and manufacturing information for those raw materials are also not known, calculation of life cycle emissions would be speculative. A life-cycle analysis is not warranted (OPR 2008).

[7] Particulate matter emissions, which include black carbon, are analyzed in EIR Section 5.3, *Air Quality*. Black carbon emissions have sharply declined due to efforts to reduce on-road and off-road vehicle emissions, especially diesel particulate matter. The State's existing air quality policies will virtually eliminate black carbon emissions from on-road diesel engines within 10 years (CARB 2017a).

TABLE 5.8-5 EXISTING GHG EMISSION FACTORS

Sector	$MTCO_2e$ / Unit	2019 Rate	Source
PG&E electricity	kWh	0.000108	PG&E
Natural Gas	Therm	0.005323	US Community Protocol
Propane	Gallon	0.005644	US Community Protocol
On-Road Vehicles (light duty)	Mile	0.000356	CARB EMFAC
On-Road Vehicles (heavy duty)	Mile	0.001154	CARB EMFAC
On-Road Vehicles (combined)	Mile	0.000755	CARB EMFAC
Solid Waste (municipal)	Ton	0.286000	CalRecycle
Solid Waste (alternative daily cover)	Ton	0.246000	CalRecycle

Source: Butte County 2021

GHG Emissions Forecast

The forecast assumes that each person in unincorporated Butte County would continue to contribute the same amount of GHG emissions to the community total as they did in 2019. Thus, the amount of GHG emissions changes proportionally to the projected change in community demographics. The community-wide forecast of GHG emissions is based on the results of the 2019 communitywide GHG emissions inventory, adjusted to the change between Butte County's 2019 and future demographic projections. Table 5.8-6, *Butte County Demographic Projections*, shows the demographic projections used to prepare the community-wide GHG emissions forecast. These demographic projections are for the unincorporated county, which excludes incorporated areas, such as the cities of Chico, Oroville, Gridley, Biggs, and the Town of Paradise.

TABLE 5.8-6 BUTTE COUNTY DEMOGRAPHIC PROJECTIONS

	2006	2019	2030	2040	2050	Percentage Change 2019 to 2040	Relevant Sectors
Population	89,410	76,930	85,490	91,460	97,830	19%	Off-road equipment
Households	34,980	29,510	37,530	40,370	43,410	37%	Residential energy, offroad equipment
Service population[1]	97,150	90,980	99,670	106,900	114,650	17%	Solid waste, water and wastewater, off-road equipment
Residents per household	2.56	2.61	2.28	2.27	2.25	(12%)	None
Jobs	7,740	14,050	14,180	15,440	16,82 0	10%	Nonresidential energy, off-

	2006	2019	2030	2040	2050	Percentage Change 2019 to 2040	Relevant Sectors
							road equipment
Vehicle miles traveled	464,302,670	533,627,000	613,632,270	705,759,230	811,857,710	32%	Transportation

Notes: All numbers are rounded to the nearest 10. Totals may not equal the sum of individual rows. Demographic numbers are from US Census, the Department of Finance, and the Butte County Association of Governments, adjusted to account for proposed annexations. Vehicle miles traveled are derived from the Butte County Association of Governments Regional Travel Demand Forecasting Model, adopted in 2020.

$MTCO_2e$ = metric tons of carbon dioxide equivalent; ( ) = negative value.

[1] Service population is the sum of populations and jobs.

Source: Butte County 2021.

GHG-1 The General Plan Update and the URCP would generate GHG emissions, either directly or indirectly, that may have a significant effect on the environment.

General Plan 2040

Development under the General Plan Update would contribute to global climate change through direct and indirect emissions of GHG from land uses within the unincorporated county. Before any development accommodated under the General Plan Update can occur in the unincorporated county, it must be analyzed for consistency with the General Plan, zoning requirements, and other applicable local and State requirements; comply with the requirements of CEQA; and obtain all necessary clearances and permits.

Implementation of the General Plan Update would result in growth in population and the development of new residential and nonresidential projects in the county. Development under the proposed General Plan Update would result in GHG emissions that would contribute to climate change on a cumulative basis. Detailed construction information for individual projects is unknown at this time, but would typically involve use of heavy-duty equipment, construction worker commute trips, material deliveries, and vendor trips. These activities would result in GHG emissions that are limited in duration for any given project, but when taken together over buildout of the General Plan Update, could be considerable. Long-term operational sources of GHG emissions associated with the proposed General Plan Update would include mobile sources (e.g., vehicle exhaust), off-road equipment (e.g., agricultural equipment), energy consumption (e.g., electricity and natural gas), solid waste (e.g., emissions that would occur at a landfill associated with solid waste decomposition), wastewater treatment, and water consumption (e.g., electricity used to deliver and treat water consumed by customers in the county).

Emissions Forecasts

Table 5.8-7, *Butte County Community-Wide Forecasted GHG Emissions*, shows forecasted community-wide GHG emissions without implementation of the Butte County 2021 CAP. As shown, total annual community-wide emissions of 631,300 $MTCO_2e$ per year ($MTCO_2e$/yr) under horizon year 2040 with implementation of

the General Plan Update would be 18,560 $MTCO_2e$/yr (3 percent) less than the 649,860 $MTCO_2e$/yr under existing year 2019 conditions. In addition, on a per-capita basis (i.e., annual emissions divided by population), the 6.61 $MTCO_2e$ per capita under horizon year 2040 conditions would also be smaller than the 8.45 $MTCO_2e$ per capita under existing year 2019 conditions.

TABLE 5.8-7 BUTTE COUNTY COMMUNITY-WIDE FORECASTED GHG EMISSIONS

Sector	Forecast Emissions ($MTCO_2e$)[1]					Percentage Change 2019 to 2040
	2006	2019 (Existing)	2030	2040 (Horizon)	2050	
Residential energy	133,350	90,720	101,040	98,900	90,460	9%
Nonresidential energy	58,670	37,350	33,050	30,510	24,640	-18%
Transportation	264,420	229,110	212,170	210,900	231,320	-8%
Solid waste	40,830	61,120	48,970	53,750	58,430	-12%
Water and wastewater	20,190	16,960	17,500	17,630	16,780	4%
Agriculture[2]	521,650	501,620	494,120	494,120	494,120	-1%
Off-road equipment	56,070	59,310	108,700	70,500	76,170	19%
Total (without land use and sequestration)	1,095,190	996,190	1,015,550	976,310	991,920	-2%
Land use and sequestration[3]	(346,340)	(346,330)	(345,010)	(345,010)	(345,010)	0%
Total (with land use and sequestration)	748,850	649,860	670,540	631,300	646,910	-3%
Per-Capita Emissions ($MTCO_2e$/Resident)	8.38	8.45	7.84	6.90	6.61	N/A
Informational Items						
Fires[4]	*8,280*	*15,730*	*N/A*	*N/A*	*N/A*	*N/A*
Stationary sources	*3,960*	*108,259*	*108,259*	*108,259*	*108,259*	*N/A*

Notes: All numbers are rounded to the nearest 10. Totals may not equal the sum of individual rows. Note: Data shown for 2006 and 2019 reflect GHG emissions inventories and are provided as a reference to see change over time. The data shown for 2030, 2040, and 2050 are GHG emission forecasts that predict future emissions. The forecast numbers for 2030, 2040, and 2050 are based on projections from the 2019 inventory.

MTCO2e = metric tons of carbon dioxide equivalent; ( )= negative value.

[1] Based on the Butte County 2021 CAP emissions forecasts that accounts for the identified potential annexations of land from the unincorporated county to incorporated Butte County communities by 2030.

[2] GHG emission projections for the agriculture and for the land use and sequestration sectors for years 2030, 2040, and 2050 remains constant due to the variable nature of each sector and the activities within them. For example, annual amount of agricultural burning is highly variable, impacting overall GHG emissions from the agriculture sector and activities such as restoration efforts. As reliable forecasts of county-specific agricultural activity are not available, these emissions are held constant.

[3] The forecast assumes that new development in unincorporated areas will take place on infill sites or on previously developed land, such as reconstruction following wildfires, and that development occurring on previously undeveloped land will occur after annexation to an incorporated community. As a result, the forecast does not assume a change in the average annual amount of carbon sequestered by natural lands.

[4] Due to significant uncertainty about the amount of fire in any given year, emissions from fires are not forecasted.

Source: Butte County 2021. See Appendix 5.8-1.

Butte County 2021 CAP

As stated, Butte County adopted its 2021 CAP on December 13, 2021. The 2021 CAP identifies future strategies that, if implemented, will allow the community to achieve its emissions reductions targets. The CAP GHG reduction strategies are as follows:

- **Strategy 1:** Continue efforts to promote energy conservation and efficiency opportunities for all residents, building/property owners, and renters in the unincorporated county, including support and promotion of programs for lower- income and disadvantaged populations.
- **Strategy 2:** Continue efforts to promote energy conservation and efficiency opportunities for all nonresidential uses in the unincorporated county, including County facilities, office space, commercial space, and industrial space.
- **Strategy 3:** Work with property owners and property management groups to increase overall building electrification and adoption of modern, efficient appliances in residential rental properties.
- **Strategy 4:** Support efforts to increase renewable and carbon-free energy generation, including wind, solar, and biomass, and to ensure customer access to such renewable energy.
- **Strategy 5:** Continue efforts to promote water conservation for all residents, building/property owners, and businesses in the unincorporated county, including support and promotion of programs for lower-income and disadvantaged populations, and large water users.
- **Strategy 6:** Pursue Transportation Demand Management (TDM) strategies, implemented through local land use decisions and through partnerships with local employers, that reduce vehicle miles traveled (VMT) countywide.
- **Strategy 7:** Prioritize bicycling and walking as safe, practical, and attractive travel options countywide.
- **Strategy 8:** Reduce carbon emissions from transportation by facilitating a transition to efficient or clean-fuel vehicles.
- **Strategy 9:** Encourage hybrid and clean-fuel construction and landscaping equipment countywide.
- **Strategy 10:** Reduce the amount of solid waste sent to local landfills through innovative programs and partnerships.
- **Strategy 11:** Reduce emissions from disposal and decomposition of organic waste.
- **Strategy 12:** Work to reduce GHG emissions associated with agricultural equipment, in partnership with regional partners, agencies, and members of the agricultural community.
- **Strategy 13:** Track trends in agricultural operations and encourage existing and new farming techniques that reduce GHG emissions from crop cultivation.
- **Strategy 14:** Work with farmers and local and regional agencies to explore techniques to maximize carbon sequestration of the county's natural and working lands.
- **Strategy 15:** Implement projects and programs to reduce GHG emissions associated with Butte County operations.

Table 5.8-8, *Butte County 2021 CAP Strategies and Reductions*, shows the emissions reductions associated with the 2021 CAP strategies. Based on the approach of the 2021 CAP, the table includes two scenarios. The first represents the scenario that does not consider the creation and operation of Butte Choice Energy (BCE), a proposed community choice aggregation (CCA) program. The second scenario represents a scenario in which BCE would be established. Currently, it is anticipated that BCE will start operation starting in fall of 2023 (BCE 2022).

TABLE 5.8-8 BUTTE COUNTY 2021 CAP STRATEGIES AND REDUCTIONS

	GHG Reduction ($MTCO_2e$)				
Strategy	2006	2019	2030	2040	2050
Without Butte Choice Energy CCA					
Strategy 1	N/A	N/A	15,420	20,360	15,550
Strategy 2	N/A	N/A	4,100	4,980	940
Strategy 3	N/A	N/A	13,570	33,660	60,960
Strategy 4	N/A	N/A	3,910	5,110	0
Strategy 5	N/A	N/A	670	1,660	2,510
Strategy 6	N/A	N/A	360	330	340
Strategy 7	N/A	N/A	820	770	820
Strategy 8	N/A	N/A	13,210	42,330	108,050
Strategy 9	N/A	N/A	19,490	9,460	15,160
Strategy 10	N/A	N/A	2,220	4,430	7,490
Strategy 11	N/A	N/A	5,270	8,000	12,870
Strategy 12	N/A	N/A	18,400	25,750	36,790
Strategy 13	N/A	N/A	43,320	79,790	143,620
Strategy 14	N/A	N/A	13,170	27,700	46,020
Strategy 15	N/A	N/A	260	860	1,710
Total GHG Emissions Reductions	**N/A**	**N/A**	**154,190**	**265,190**	**452,830**
With Butte Choice Energy CCA					
Strategy 1	N/A	N/A	15,200	20,050	15,550
Strategy 2	N/A	N/A	3,800	4,530	940
Strategy 3	N/A	N/A	13,670	33,880	60,960
Strategy 4	N/A	N/A	11,460	10,800	0
Strategy 5	N/A	N/A	650	1,630	2,510
Strategy 6	N/A	N/A	360	330	340
Strategy 7	N/A	N/A	820	770	820
Strategy 8	N/A	N/A	13,380	42,750	108,050
Strategy 9	N/A	N/A	19,490	9,460	15,160
Strategy 10	N/A	N/A	2,220	4,430	7,490
Strategy 11	N/A	N/A	5,270	8,000	12,870
Strategy 12	N/A	N/A	18,400	25,750	36,790
Strategy 13	N/A	N/A	43,320	79,790	143,620

Strategy	GHG Reduction ($MTCO_2e$)				
	2006	2019	2030	2040	2050
Strategy 14	N/A	N/A	13,170	27,700	46,020
Strategy 15	N/A	N/A	250	850	1,710
Total GHG Emissions Reductions	**N/A**	**N/A**	**161,460**	**270,720**	**452,830**

Sources: Butte County 2021.

Table 5.8-9, *Butte County Community-Wide Forecasted GHG Emissions with 2021 CAP Reductions*, shows the emissions inventory for Butte County with implementation of the 2021 CAP. As shown, the table includes the scenarios in which the BCE would and would not operate.

TABLE 5.8-9 BUTTE COUNTY COMMUNITY-WIDE FORECASTED GHG EMISSIONS WITH 2021 CAP REDUCTIONS

Scenario	GHG Reduction ($MTCO_2e$)				
	2006	2019 (Existing)	2030	2040 (Horizon)	2050
Without Butte Choice Energy CCA					
Community Wide Inventory	748,850	649,860	670,540	631,300	646,912
2021 CAP Reductions Without BCE	N/A	N/A	(154,190)	(265,190)	(452,830)
Emissions Inventory with 2021 CAP	748,850	649,860	516,350	366,110	194,082
Annual Emissions Reduction Target	N/A	N/A	381,920	254,610	127,310
Achieves Target?	N/A	N/A	No	No	No
Per Capita Emissions ($MTCO_2e$/resident)	8.38	8.45	6.04	4.00	1.98
Per Capita Emissions Reduction Target	N/A	N/A	6.00	4.00	2.00
Achieves Target?	N/A	N/A	No	No	Yes
With Butte Choice Energy CCA					
Community Wide Inventory	748,850	649,860	670,540	631,300	646,912
2021 CAP Reductions With BCE	N/A	N/A	(161,460)	(270,720)	(452,830)
Emissions Inventory with 2021 CAP	748,850	649,860	509,080	360,580	194,082
Annual Emissions Reduction Target	N/A	N/A	381,920	254,610	127,310
Achieves Target?	N/A	N/A	No	No	No
Per Capita Emissions ($MTCO_2e$/resident)	8.38	8.45	5.95	3.94	1.98
Per Capita Emissions Reduction Target	N/A	N/A	6.00	4.00	2.00
Achieves Target?	N/A	N/A	Yes	Yes	Yes

Notes: ( )= negative value.
Sources: Butte County 2021. See Appendix 5.8-1.

In addition to the State actions, as well as CAP strategies that would reduce emissions from future activities in the County, the General Plan Update includes policies and actions that would further support reductions in emissions from existing and future activities in the county.

Implementation of the following General Plan Update policies and actions could contribute to reducing GHG emissions from mobile sources by reducing single-passenger vehicle trips and VMT, reducing vehicle idling, supporting the transition to low- and zero-emission vehicles, and increasing active and public transit infrastructure:

- COS-P1.7: New development projects shall provide electric vehicle charging stations and prioritized parking for electric vehicles, hybrid vehicles, alternative fuel vehicles and carpools.
- COS-A1.2: Continue to update the County program to replace County fleet vehicles with the lowest emission technology vehicles, wherever possible, including landscaping and other equipment.
- COS-A1.3: Consider the establishment of a motor vehicle emissions budget for County vehicles, including a plan to reduce motor vehicle emissions.
- COS-A1.4: Coordinate with the Butte County Air Quality Management District on anti-idling programs that will reduce idling by heavy duty vehicles.
- COS-A1.5: Cooperate with the school districts to develop school access plans that substantially reduce automobile trips to, and congestion surrounding, schools. Each District's School Access Plan could address necessary infrastructure improvements, potential funding sources, replacing older diesel buses with low or zero-emission vehicles, and mitigation fees to expand school bus service.
- COS-P5.7: The County shall cooperate with Butte County Air Quality Management District in efforts to reduce traffic-related emissions below levels that violate national ambient air quality standards in Butte County.
- LU-P3.1: The County shall encourage housing that meets the needs of the local workforce, jobs that are suitable for local residents, and programs that reduce commuting and improve opportunities to live and work in the same community.
- LU-P3.3: Newly-developed neighborhoods shall include parks and recreation facilities. Sidewalks, bike paths, and other routes shall provide circulation to surrounding areas.
- LU-P4.3: Generally, higher density housing shall be along collector and arterial streets and within easy walking distance of public facilities.
- LU-P8.5: Stores providing goods and services to support daily life in neighborhoods should be within walking distance to the majority of neighborhoods.
- LU-P8.6: The County shall encourage the construction of housing near employment centers, along with additional employment-generating uses near areas that are primarily residential.
- LU-P8.7: Land use patterns and development shall support the State's ability to achieve its vehicle miles traveled (VMT) and greenhouse gas (GHG) reduction goals, and the County's own VMT thresholds of significance.
- CIR-P2.1: Carpooling shall be encouraged at major job and activity centers by providing information on how to participate in available private and public programs.
- CIR-P2.2: Trip reduction among County employees shall be encouraged. Specific measures to encourage trip reduction could include providing subsidies, bicycle facilities, alternative work

schedules, ridesharing, telecommuting and work-at-home programs, employee education, and preferential parking for carpools/vanpools.

- CIR-P2.3: Home occupations shall be encouraged through streamlined application processes that are appropriate to the intensity and proposed uses of the home business.
- CIR-P2.4: Employers shall be encouraged to provide transit subsidies, bicycle facilities, alternative work schedules, ridesharing, telecommuting and work-at-home programs, employee education and preferential parking for carpools/vanpools.
- CIR-P2.5: Transportation corridors for renewable energy transmission and for new transit lines shall be preserved.
- CIR-P2.6: The County shall incorporate "Complete Streets" policies that are designed and built to accommodate pedestrians, bicyclists, and transit users.
- CIR-A2.1: Prepare, adopt, and maintain a VMT environmental threshold and development project screening process.
- CIR-P3.1: The County supports improved connections to other regional transportation services, such as rail and regional/national bus lines, to connect Butte County communities with each other.
- CIR-P3.2: A continuous, integrated, and accessible pedestrian network shall be provided in urbanized areas to encourage walking as a viable transportation mode and as a form of recreation and exercise.
- CIR-P3.3: Travel modes shall be interconnected to form an integrated, coordinated, and balanced multimodal transportation system.
- CIR-P3.4: New development projects shall provide adequate pedestrian, bicycle, and multiuse facilities in a way that integrates circulation and recreational use, commensurate with the impacts of the project, local and regional plans, and consistent with surrounding development.
- CIR-P3.5: New neighborhoods shall provide bike and pedestrian connectivity between streets.
- CIR-P3.6: Arterial and collector streets shall be designed to enhance the integrity and cohesiveness of urban neighborhoods.
- CIR-P3.7: Major residential development projects shall be designed with interconnected collector street patterns and short block lengths. Cul-de-sac and dead-end streets shall conform to County design standards.
- CIR-P3.8: Public facilities shall be located and designed to allow for convenient access from public transit and/or bicycle and pedestrian facilities.
- CIR-A3.1: In conjunction with the Butte County Association of Governments, seek funding to develop a plan to support and promote rail service that will connect Butte County with other regions and connect Butte County communities with each other.
- CIR-P4.1: The County supports public transit as a viable and attractive alternative to the use of single occupant motor vehicles.

- CIR-P4.2: The County supports improved public transit service to be determined through the public process to identify unmet needs and prioritize feasible solutions. Potential improvements could include serving an expanded geographic area, more frequent buses at key times of the day, and improved transit amenities such as bus shelters.
- CIR-P4.3: The County supports public transportation programs that promote access to shopping, employment, education, health care, and recreation.
- CIR-P4.4: The County encourages the Butte County Association of Governments to provide shuttles from local transit stations to special event centers.
- CIR-P4.5: The County continues to support local Amtrak passenger services.
- CIR-P4.6: New development projects in areas served by existing or planned transit shall provide fixed transit facilities such as bus shelters and pullouts, according to expected demand and in coordination with Butte Regional Transit.
- CIR-A4.1: Support efforts by the Butte County Association of Governments to evaluate alternate sources of funding for public transit, such as advertising revenue from buses and bus shelters.
- CIR-P5.1: Bicycle facilities shall be developed in accordance with the County's adopted Bicycle Master Plan.
- CIR-P5.2: New bicycle routes and paths shall create a bicycle environment that minimizes harm when people ride.
- CIR-P5.3: The bicycle system shall be integrated with other transportation modes by connecting bicycle routes and transit stops, providing secure bicycle parking facilities and supporting efforts to expand accommodation of bicycles aboard buses.
- CIR-P5.4: Transportation service providers shall be encouraged to incorporate bicycle storage facilities into bus stops and rail stations.
- CIR-P5.5: Construction or expansion of major arterials shall incorporate Class II bicycle facilities whenever feasible. Class III Bike routes will be considered where appropriate.
- CIR-P5.6: Residential development projects shall incorporate internal circulation networks that encourage bicycle use and that connect to the external bicycle circulation system.
- CIR-P5.7: Owners of apartment complexes and major commercial, office, industrial, and educational sites shall provide plentiful, convenient, and centrally located bicycle parking facilities.
- CIR-P5.8: All County facilities and park-and-ride lots shall provide appropriate bicycle amenities, including bicycle racks and storage facilities.
- CIR-A5.1: Periodically update the Bicycle Master Plan.
- CIR-A5.2: Continue to utilize BCAG's GIS mapping database of current and proposed bicycle routes and facilities countywide.
- CIR-A5.3: Pursue sources of funding to improve and maintain the existing bicycle system and to plan and construct new bicycle facilities that encourage commuting and recreation.

- **EJ-P2.1:** The County shall prioritize improvements to bikeways and sidewalks that are in Communities of Opportunity to make active transportation more accessible, user friendly, and safer in these communities.
- **EJ-P2.2:** Where supported by the community, street lighting for public safety shall be provided, prioritizing implementation in Communities of Opportunity, particularly at parks, transit stops, bike and pedestrian paths, and along commercial corridors.
- **EJ-P2.3:** The County shall encourage development in Communities of Opportunity that combines employment, housing, and services close to transit facilities.
- **EJ-P2.4:** The County shall work with transit providers to expand the hours of transit operation, operational boundaries, convenience, and quality of transit services that connect Communities of Opportunity with educational and economic opportunities, medical services, and other needed goods and services.
- **EJ-P2.5:** The County shall encourage transit providers to offer small or less frequent buses on routes with low passenger demand and connections between unincorporated and incorporated bus routes, with a focus on bridging service gaps in Communities of Opportunity.
- **EJ-P2.6:** The County shall provide support to carpooling and vanpooling programs, particularly among Communities of Opportunity, such as by assisting with outreach and program facilitation.
- **EJ-A2.1:** Seek opportunities to identify and construct multi-modal improvements in Communities of Opportunity.
- **EJ-P8.3:** The County supports the development of high-quality, local jobs within and near Communities of Opportunity to reduce long commutes and resultant vehicle emissions.

The proposed General Plan Update also includes the following policies and actions that would contribute to reducing GHG emissions from area sources:

- **COS-P5.3:** Only EPA Phase II certified wood burning or equivalent devices maybe installed in any residential projects.
- **COS-A5.1:** Support Air Quality Management District programs that would offer a rebate or incentive to replace wood-burning fireplaces and stoves with EPA-certified wood stoves or gas stoves.
- **COS-A5.2:** Expand services and conduct outreach to discourage burning household waste.

The proposed also includes the following policies that would contribute in reducing emissions from energy consumption by increasing energy efficiency and transitioning from natural gas to electric appliances and fully electric homes.

- **COS-P2.3:** All new County buildings and major renovations designed for public access and/or primary workspace shall meet, at a minimum, LEED-Silver or equivalent and the County shall use these buildings to demonstrate green building practices to builders, developers, homeowners, and others. Minor buildings of an accessory nature that are not used as public spaces and that do not serve as a primary workspace are not required to meet LEED-Silver or equivalent, but shall implement practical building design, construction, and maintenance solutions as set forth under the LEED rating system or equivalent.

- COS-P2.4: All new subdivisions and developments should meet green planning standards such as LEED for Neighborhood Design.
- COS-P2.5: The County shall work with property owners and property management groups to increase overall building electrification and adoption of modern, efficient appliances in residential rental properties.
- COS-A2.3: Explore, as feasible, Building Code amendments requiring replacement of natural gas space and water heaters with electric models at end of life during the 2022 and successive Buildings Standards Code updates.
- COS A2.4: Identify and remove existing Code, permitting, or other County requirements that provide barriers to all-electric conversions of existing homes and businesses and consider incentives, such as permit streamlining or fee reductions, as feasible.
- COS A2.5: Promote and support opportunities for residents to test electric equipment, such as portable induction cooktops, to encourage transitioning from gas to electric appliances.

Overall, implementation of the General Plan Update would result in growth in population and the development of new residential and nonresidential projects and, as a result, generate new activities that result in GHG emissions. However, as shown in Tables 5.8-7 and Table 5.8-9, overall GHG emissions associated with Butte County would generally decline based on state actions, local actions (i.e., 2021 CAP), and implementation of the General Plan Update. In addition, as shown in Table 5.8-9, future per-capita GHG emissions in the county are also projected to decrease over time compared to existing year conditions. Under horizon year 2040 conditions, per-capita emissions for the scenario without BCE is 4.00 $MTCO_2e$/person/yr and 3.94 $MTCO_2e$/person/yr for the with BCE scenario. The per-capita emissions under both scenarios for horizon year 2040 would be smaller than the per-capita emission rate of 8.45 $MTCO_2e$/person/yr under existing conditions. Implementation of the General Plan Update would not directly or indirectly result in an increase in GHG emissions compared to existing conditions in 2019.

Consistency with the State's GHG Reduction Targets and Carbon Neutrality Goals

This EIR also analyzes the potential for the project to conflict with the GHG reduction goal established under AB 1279. As shown in Table 5.8-9, Butte County would meet the respective per-capita GHG targets for years 2030 and 2040 with implementation of the 2021 CAP and operation of BCE. As stated, BCE is anticipated to commence operation in fall of 2023. Butte County would meet its per-capita GHG reduction target of 2.0 $MTCO_2e$/capita under year 2050 conditions with implementation of its 2021 CAP and regardless of whether BCE is implemented. However, as noted in the 2021 CAP, the 2050 reduction target is based on the GHG reduction goal of 80 percent below 1990 levels by 2050 established under EO S-03-05. AB 1279, which supersedes EO S-03-05, established a more stringent GHG reduction goal of 85 percent below 1990 levels by 2045. Because the 2021 CAP is designed to only meet the GHG reduction goal under S-03-05, it would not result in the necessary reductions needed to meet the AB 1279 GHG reduction goal. Additionally, it is also not anticipated that the 2021 CAP would result in the necessary reductions under year 2040 conditions indicating a trajectory in meeting the AB 1279 goal for year 2045.

Overall, it is anticipated that Butte County would meet the 2030 target with implementation of both the 2021 CAP and BCE. However, as discussed herein, even with the 2021 CAP, implementation of the General Plan Update would not result in Butte County achieving the AB 1279 long-term year 2045 GHG reduction goal. Reduction strategies to meet the AB 1279 long-term 2045 GHG reduction goal would be included in future updates to the Butte County CAP. In addition, additional state strategies may also be required to achieve the 2045 GHG reduction goal. Therefore, until such time, implementation of the General Plan Update, even with implementation of the 2021 CAP, would result in potentially significant GHG emissions impacts.

Level of Significance Before Mitigation: GHG-1 would be potentially significant.

Impact GHG-1a: Implementation of the General Plan Update would not meet the AB 1279 long-term GHG reduction goal for year 2045.

Mitigation Measures

Mitigation Measure GHG-1: The County shall prepare and update its next regularly planned update to the Climate Action Plan (CAP) per the schedule (within five years or sooner) established under Implementation Strategy 4 of the Butte County 2021 CAP, to achieve, or move towards achieving a GHG reduction target consistent with the Assembly Bill 1279 GHG reduction target of 85 percent of 1990 levels by 2045. The CAP update shall include the following:

- GHG inventories of existing and forecast-year GHG levels.
- Tools and strategies for reducing GHG emissions to ensure a trajectory with the long-term GHG reduction target of AB 1279.
- Plan implementation guidance that includes, at minimum, the following components consistent with the updated CAP:
  - Administration and Staffing
  - Finance and Budgeting
  - Timelines for Measure Implementation
  - Community Outreach and Education
  - Monitoring, Reporting, and Adaptive Management
  - Tracking Tools

Level of Significance After Mitigation: GHG-1 would be significant and unavoidable. Implementation of Mitigation Measure GHG-1, in conjunction with proposed Action COS-A1.1, would ensure that the County prepares an update to the adopted CAP to chart a trajectory to achieve the long-term year 2045 GHG reduction target set by AB 1279 and substantial progress toward the State's carbon neutrality goals also under AB 1279. Mitigation Measure GHG-1a would also ensure that the County is tracking and monitoring the County's GHG emissions. However, until the next CAP update is prepared, and given that additional statewide measures may be required to achieve the AB 1279 target, and there is currently no adopted

statewide plan (e.g., Scoping Plan) to address the long-term year 2045 GHG reduction target set by AB 1279, Impact GHG-1a is considered significant and unavoidable.

Upper Ridge Community Plan

As discussed in Chapter 3, *Project Description*, the URCP would increase development potential in the Upper Ridge community by redesignating 28 parcels from Retail and Office to Mixed-use land uses in the Old Magalia and Magalia Center neighborhoods. Potential future development in the Upper Ridge community could accommodate up to 851 new dwelling units or 926,739 square feet of new retail space.

The analysis prepared for the General Plan Update regarding potential GHG emissions impacts from operation activities would also apply to the URCP. Overall, GHG emissions impacts associated with the land uses accommodated under the URCP are considered potentially significant.

Level of Significance Before Mitigation: GHG-1 would be potentially significant.

Impact GHG-1b: Implementation of the URCP would generate emissions that would contribute in Butte County not achieving the AB 1279 long-term GHG reduction goal for year 2045.

Mitigation Measures

Implement Mitigation Measure GHG-1.

Level of Significance After Mitigation: GHG-1 would be significant and unavoidable. For the same reasons as provided for Impact GHG-1a, Impact GHG-1b is considered significant and unavoidable.

GHG-2	The proposed project would not conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs.

General Plan 2040

CARB Scoping Plan

The CARB Scoping Plan is applicable to state agencies, but is not directly applicable to cities/counties and individual projects (i.e., the Scoping Plan does not require the County to adopt policies, programs, or regulations to reduce GHG emissions). However, new regulations adopted by the state agencies outlined in the Scoping Plan result in GHG emissions reductions at the local level. As a result, local jurisdictions benefit from reductions in transportation emissions rates, increases in water efficiency in the building and landscape codes, and other statewide actions that would affect a local jurisdiction's emissions inventory from the top down. Statewide strategies to reduce GHG emissions include the LCFS and changes in the CAFE standards (e.g., Pavley I and Pavley California Advanced Clean Cars program).

Project GHG emissions shown in Table 5.8-7 and Table 5.8-9 includes reductions associated with statewide strategies that have been adopted since AB 32 and SB 32. Development projects accommodated under the General Plan Update are required to adhere to the programs and regulations identified by the Scoping Plan

and implemented by state, regional, and local agencies to achieve the statewide GHG reduction goals of AB 32, SB 32, and AB 1279. Future development projects would be required to comply with these state GHG emissions-reduction measures because they are statewide strategies. For example, new buildings associated with land uses accommodated under the General Plan Update would be required to meet the CALGreen and Building Energy Efficiency Standards in effect at the time when applying for building permits. Furthermore, as discussed under the discussion for Impact 5.8-1, the General Plan Update includes goals, policies, and programs that would help reduce GHG emissions and support achieving the GHG reduction goals.

As stated, overall, it is anticipated that Butte County would meet the 2030 target with implementation of both the 2021 CAP and BCE, which would support the Statewide reduction target for 2030 identified in the 2017 Scoping Plan and the draft 2022 Scoping Plan. In addition, the General Plan Update includes Implementation Program COS-A1.1 that requires the County to achieve GHG emissions-reduction targets through implementation of the CAP. Additionally, the County would conduct an update of its community-wide GHG emissions to assess progress to date in meeting the adopted targets, and periodically update the CAP through Implementation Program COS-A1.1 to address State and local emissions reduction targets and associated updates to the Scoping Plan that could be approved by the State, in light of the State's long-term 2045 emissions-reduction target established under AB 1279. These efforts would help reduce GHG emissions and therefore, help achieve GHG reduction goals. Therefore, overall, the General Plan Update would not obstruct implementation of the CARB Scoping Plan.

Level of Significance Before Mitigation: GHG-2 would be less than significant.

Mitigation Measures

No mitigation measures are required.

BCAG's 2020-2040 Regional Transportation Plan/Sustainable Communities Strategy

The BCAG RTP/SCS is Butte County's RTP to achieve the passenger vehicle emissions reductions identified under SB 375. BCAG's 2020 RTP/SCS was adopted December 10, 2020. The RTP/SCS identifies transportation investments, including highways, local streets and roads, transit, aviation, rail, and non-motorized transportation (bike and pedestrian).

BCAG's RTP/SCS identifies that land use strategies that focus on innovative land use planning and transportation planning, planning for future roads to accommodate land uses at a regional level, and pedestrian-friendly roads and encourage bicycle trips and the use of the mass transportation system. The overarching strategy in the 2020 RTP/SCS is to allow Butte County to maintain, manage, and improve the region's transportation system over the next 20+ years. The 2020 RTP/SCS contains transportation projects to help more efficiently distribute population, housing, and employment growth as well as forecast development that is generally consistent with regional-level general plan data. The projected regional development pattern—when integrated with the proposed regional transportation network identified in the RTP/SCS—would reduce per-capita vehicular-travel-related GHG emissions and achieve the GHG reduction per-capita targets for the BCAG region. The RTP/SCS does not require that local general plans,

specific plans, or zoning be consistent with the RTP/SCS, but provides incentives for consistency for governments and developers.

As discussed in further detail in Chapter 5.16, *Transportation*, under Impact TRANS-1 of this Draft EIR (see Table 5.16-2), the General Plan Update would be consistent with the 2020 RTP/SCS. For example, the General Plan Update policies, such as CIR-P2.6, CIR-P3.3, CIR-P3.2, and CIR-P3.8, would be consistent with the 2020 RTP/SCS goals in focusing on a regional transportation system for bicyclists and pedestrians and in providing economical, long-term solutions to transportation problems by encouraging community designs that encourage walking, transit, and bicycling. Therefore, the General Plan Update would not interfere with BCAG's ability to implement the regional strategies outlined in the 2020 RTP/SCS and impacts would be less than significant.

Level of Significance Before Mitigation: GHG-2 would be less than significant.

Mitigation Measures

No mitigation measures are required.

Butte County 2021 Climate Action Plan

As shown in Table 5.8-10, *General Plan Update and URCP Consistency with the Butte County 2021 Climate Action Plan*, the General Plan Update includes goals, policies, and actions that would be consistent with the overall goals of the 2021 CAP. For example, the General Plan Update includes various policies and actions (e.g., COS-P2.3, COS-P3.5, COS-A4.2, and COS-A4.3) that would be consistent and support the 2021 CAP goal of increasing energy efficiency and use of carbon-free/clean energy sources. Therefore, implementation of the General Plan Update would not conflict or interfere with implementation of the 2021 CAP.

Level of Significance Before Mitigation: GHG-2 would be less than significant.

Mitigation Measures

No mitigation measures are required.

Upper Ridge Community Plan

CARB Scoping Plan

Similar to the CARB Scoping Plan consistency analysis for the General Plan Update, development projects accommodated under the URCP are required to adhere to the programs and regulations identified by the Scoping Plan and implemented by state, regional, and local agencies to achieve the statewide GHG reduction goals of AB 32, SB 32, and AB 1279. Therefore, implementation of the URCP would not conflict or interfere with implementation of the CARB Scoping Plan and impacts are less than significant.

Level of Significance Before Mitigation: GHG-2 would be less than significant.

Mitigation Measures

No mitigation measures are required.

BCAG's 2020 Regional Transportation Plan/Sustainable Communities Strategy

As discussed in detail in Chapter 5.16, *Transportation*, under Impact TRANS-1 and as shown in Table 5.16-2 of this Draft EIR, the URCP would be consistent with the goals of the 2020 RTP/SCS. For example, Strategy CIR 2.5 proposes providing enhanced transit bus stops with improved bus signage, lighting, and seating at the two transit stops in each direction on Lakeridge Circle to create better access and encourage transit ridership to Magalia Center. Furthermore, as discussed in Impact TRANS-2 of this Draft EIR, the development accommodated under the URCP is expected to reduce VMT. Mixed-use land uses in the Old Magalia and Magalia Center neighborhoods would provide residents with an opportunity to both live and work in the county instead of commuting to other areas, which would contribute to minimizing VMT. Therefore, implementation of the URCP would not conflict or interfere with implementation of the 2020 RTP/SCS and impacts are less than significant.

Level of Significance Before Mitigation: GHG-2 would be less than significant.

Mitigation Measures

No mitigation measures are required.

Butte County 2021 Climate Action Plan

As shown in Table 5.8-10, the URCP includes strategies that would be consistent with the overall goals of the 2021 CAP. For example, Strategy CIR-2.1 through Strategy CIR-2.5 would be consistent with and support the 2021 CAP goal of developing a transportation network that provides equitable access to motorized and non-motorized mobility. Therefore, implementation of the URCP would not conflict or interfere with implementation of the 2021 CAP.

Level of Significance Before Mitigation: GHG-2 would be less than significant.

Mitigation Measures

No mitigation measures are required.

TABLE 5.8-10 GENERAL PLAN UPDATE AND URCP CONSISTENCY WITH THE BUTTE COUNTY 2021 CLIMATE ACTION PLAN

2021 CAP Goals and Strategies	Project Consistency Analysis
Goal: Butte County is home to energy-efficient and resilient homes, businesses, and operations that rely on carbon-free electricity or other low-carbon, clean energy sources. ▪ **Strategy 1:** Continue efforts to promote energy conservation and efficiency opportunities for all residents, building/property owners, and renters in the unincorporated county, including support and promotion of programs for lower- income and disadvantaged populations. ▪ **Strategy 2:** Continue efforts to promote energy conservation and efficiency opportunities for all nonresidential uses in the unincorporated county, including County facilities, office space, commercial space, and industrial space. ▪ **Strategy 3:** Work with property owners and property management groups to increase overall building electrification and adoption of modern, efficient appliances in residential rental properties. ▪ **Strategy 4:** Support efforts to increase renewable and carbon-free energy generation, including wind, solar, and biomass, and to ensure customer access to such renewable energy.	**Consistent.** The General Plan Update includes the following polices and actions in the Conservation and Open Space Element that would help implement this goal: ▪ **COS-P2.3:** All new County buildings and major renovations designed for public access and/or primary workspace shall meet, at a minimum, LEED-Silver or equivalent and the County shall use these buildings to demonstrate green building practices to builders, developers, homeowners, and others. Minor buildings of an accessory nature that are not used as public spaces and that do not serve as a primary workspace are not required to meet LEED-Silver or equivalent, but shall implement practical building design, construction, and maintenance solutions as set forth under the LEED rating system or equivalent. ▪ **COS-P2.4:** All new subdivisions and developments should meet green planning standards such as LEED for Neighborhood Design. ▪ **COS-P2.5:** The County shall work with property owners and property management groups to increase overall building electrification and adoption of modern, efficient appliances in residential rental properties. ▪ **COS A2.3:** Explore and adopt, as feasible, Building Code amendments requiring replacement of natural gas space and water heaters with electric models at end of life during the 2022 and successive Buildings Standards Code updates. ▪ **COS A2.4:** Identify and remove existing Code, permitting, or other County requirements that provide barriers to all-electric conversions of existing homes and businesses and consider incentives, such as permit streamlining or fee reductions, as feasible. ▪ **COS A2.5:** Promote and support opportunities for residents to test electric equipment, such as portable induction cooktops, to encourage transitioning from gas to electric appliances. ▪ **COS-P3.2:** The development of renewable energy sources in the county shall be encouraged, provided that such fuel sources can be built or expanded and that significant adverse environmental impacts associated with such development can be successfully mitigated. ▪ **COS-P3.3:** The County supports the introduction and implementation of Butte Choice Energy, the County's community choice aggregation program. ▪ **COS-P3.4:** The County shall promote and incentivize small-scale, on-site renewable energy and storage systems for existing residential units, nonresidential buildings, and in the agricultural sector. ▪ **COS-P3.5:** The County supports efforts to increase renewable and carbon-free energy generation, including wind, solar, and biomass, and to ensure customer access to such renewable energy.

- **COS-P3.7:** Alternative energy sources such as solar shall continue to be used for County facilities, which set an example for others to follow.
- **COS-P3.8:** Wind power generation facilities, solar power generation facilities, and other alternative energy facilities shall be encouraged in all General Plan land use designations, consistent with zoning provided that significant adverse environmental impacts associated with such development can be successfully mitigated. All new proposed energy projects shall be compatible with the Military Operations Areas (MOAs) shown on Figure LU-4.
- **COS-P4.1:** The County shall continue efforts to promote energy conservation and efficiency opportunities for all residents, building/property owners, and renters, including support and promotion of programs for lower- income and disadvantaged populations.
- **COS-P4.2:** The County shall continue efforts to promote energy conservation and efficiency opportunities for all nonresidential uses, including County facilities, office space, commercial space, and industrial space.
- **COS-P4.3:** Energy efficiency and reduction efforts of local businesses, including agricultural businesses, shall be promoted and encouraged.
- **COS-P4.4:** The County shall coordinate with Pacific Gas and Electric Company (PG&E) and other utility providers to promote programs that reduce energy demand.
- **COS-P4.6:** The County shall work with property owners and property management groups to increase overall building electrification of new and existing development, and adoption of modern, efficient appliances in residential rental properties.
- **COS-P4.7:** Site and structure designs for new development projects shall maximize energy efficiency.
- **COS-A4.1:** Continue to participate in available and future programs to provide low-cost financing for energy retrofits throughout Butte County.
- **COS-A4.2:** Pursue grants to address existing energy inefficiencies in County facilities.
- **COS-A4.3:** Consider giving preference to renewable energy for County purchases when feasible.

Consistent: The URCP includes the following strategies that would be consistent with this goal:

- **Strategy HS-1.5:** Work with partner agencies and other organizations to secure grant funding to provide low-cost energy retrofits reducing energy use.
- **Strategy HS-2.2:** Encourage solar panels and energy storage in homes and commercial buildings to provide backup electricity supply.
- **Strategy UI-4.2:** Encourage the adoption of backup power service for residences and businesses on the Upper Ridge, including installation of rooftop solar and battery backup systems.
- **Strategy UI-4.3:** Evaluate options for providing backup power service to critical communication infrastructure. These options could include a variety of means of providing backup power, such as battery backup power with solar recharge or generator backup power.

2021 CAP Goals and Strategies	Project Consistency Analysis
Goal: Homes, businesses, and operations throughout the unincorporated county practice sustainable and efficient indoor and outdoor water use. ▪ **Strategy 5:** Continue efforts to promote water conservation for all residents, building/property owners, and businesses in the unincorporated county, including support and promotion of programs for lower-income and disadvantaged populations, and large water users.	**Consistent.** The General Plan Update includes the following goals, polices, and actions in the Water Resources Element that would help implement this goal: **Goal W-5:** Promote water conservation as an important part of a long-term and sustainable water supply. ▪ **W-P5.1**: Agricultural and urban water use efficiency shall be promoted. ▪ **W-P5.2**: The County shall coordinate with local Resource Conservation Districts, the Natural Resource Conservation Service, the Northern Sacramento Valley and Upper Feather River Integrated Water Management groups, Butte County Groundwater Sustainability Agencies, and local special districts to ensure consistent and effective water conservation measures and messaging. ▪ **W-P5.3**: The County should work with municipal and industrial water purveyors or users to implement water conservation policies and measures, including recycling and reuse. ▪ **W-P5.4**: Opportunities to recover and uses treated wastewater for beneficial purposes shall be promoted and encouraged. ▪ **W-P5.5**: The use of captured water and reuse of grey water for non-potable uses shall be encouraged. ▪ **W-P5.6**: New development projects shall adopt best management practices for water use efficiency and demonstrate specific water conservation measures. ▪ **W-P5.7**: County facilities shall adopt water conservation measures and when appropriate retrofit existing facilities to improve water conservation. ▪ **W-A5.1**: Increase participation in water conservation programs to reduce water use throughout Butte County. ▪ **W-A5-2**: Provide education and increase awareness about water conservation and protection. **Consistent:** The URCP includes the following strategies and design guideline that would be consistent with and support this goal: ▪ **Strategy HS-1.1:** Develop alternative water supplies to support the Upper Ridge during drought conditions. ▪ **Strategy HS-1.3:** Work with Del Oro Water company to develop a water conservation education program for community residents and visitors. ▪ **Strategy HS-1.3:** Work with Del Oro Water company to develop a water conservation education program for community residents and visitors. The Design Guidelines identifies the use of drought-tolerant landscaping.

GREENHOUSE GAS EMISSIONS

Goal: Residents, workers, and visitors rely on low carbon, connected, and efficient transportation network that provides equitable access to motorized and non-motorized mobility options. ▪ **Strategy 6:** Pursue Transportation Demand Management (TDM) strategies, implemented through local land use decisions and through partnerships with local employers, that reduce vehicle miles traveled (VMT) countywide. ▪ **Strategy 7:** Prioritize bicycling and walking as safe, practical, and attractive travel options countywide. ▪ **Strategy 8:** Reduce carbon emissions from transportation by facilitating a transition to efficient or clean-fuel vehicles. ▪ **Strategy 9:** Encourage hybrid and clean-fuel construction and landscaping equipment countywide.	**Consistent.** The General Plan Update includes the following goals, policies, and actions in the Circulation Element and Land Use Element that would help implement this goal: **Goal CIR-2:** Strive to operate and modify the transportation network to accommodate planned land use growth in a manner that reduces per-capita vehicle miles traveled (VMT) and related greenhouse gas and air pollutant emissions. ▪ **CIR-P2.1**: Carpooling shall be encouraged at major job and activity centers by providing information on how to participate in available private and public programs. ▪ **CIR-P2.2**: Trip reduction among County employees shall be encouraged. Specific measures to encourage trip reduction could include providing subsidies, bicycle facilities, alternative work schedules, ridesharing, telecommuting and work-at-home programs, employee education, and preferential parking for carpools/vanpools. ▪ **CIR-P2.4**: Employers shall be encouraged to provide transit subsidies, bicycle facilities, alternative work schedules, ridesharing, telecommuting and work-at-home programs, employee education and preferential parking for carpools/vanpools. ▪ **CIR-P2.5**: Transportation corridors for renewable energy transmission and for new transit lines shall be preserved. ▪ **CIR-P2.6**: The County shall incorporate "Complete Streets" policies that are designed and built to accommodate pedestrians, bicyclists, and transit users. ▪ **CIR-A2.1**: Prepare, adopt, and maintain a VMT environmental threshold and development project screening process. ▪ **CIR-P3.1**: The County supports improved connections to other regional transportation services, such as rail and regional/national bus lines, to connect Butte County communities with each other. ▪ **CIR-A3.1**: In conjunction with the Butte County Association of Governments, seek funding to develop a plan to support and promote rail service that will connect Butte County with other regions and connect Butte County communities with each other. ▪ **CIR-P3.3**: Travel modes shall be interconnected to form an integrated, coordinated, and balanced multimodal transportation system. ▪ **CIR-P3.4**: New development projects shall provide adequate pedestrian, bicycle, and multiuse facilities in a way that integrates circulation and recreational use, commensurate with the impacts of the project, local and regional plans, and consistent with surrounding development. ▪ **CIR-P3.5**: New neighborhoods shall provide bike and pedestrian connectivity between streets. ▪ **CIR-P3.6**: Arterial and collector streets shall be designed to enhance the integrity and cohesiveness of urban neighborhoods.

- CIR-P3.7: Major residential development projects shall be designed with interconnected collector street patterns and short block lengths. Cul-de-sac and dead-end streets shall conform to County design standards.
- CIR-P3.8: Public facilities shall be located and designed to allow for convenient access from public transit and/or bicycle and pedestrian facilities.
- CIR-P4.1: The County supports public transit as a viable and attractive alternative to the use of single occupant motor vehicles.
- CIR-P4.2: The County supports improved public transit service to be determined through the public process to identify unmet needs and prioritize feasible solutions. Potential improvements could include serving an expanded geographic area, more frequent buses at key times of the day, and improved transit amenities such as bus shelters.
- CIR-P5.3: The bicycle system shall be integrated with other transportation modes by connecting bicycle routes and transit stops, providing secure bicycle parking facilities and supporting efforts to expand accommodation of bicycles aboard buses.
- CIR-P5.4: Transportation service providers shall be encouraged to incorporate bicycle storage facilities into bus stops and rail stations.
- CIR-P5.5: Construction or expansion of major arterials shall incorporate Class II bicycle facilities whenever feasible. Class III Bike routes will be considered where appropriate.
- CIR-P5.6: Residential development projects shall incorporate internal circulation networks that encourage bicycle use and that connect to the external bicycle circulation system.
- CIR-P5.7: Owners of apartment complexes and major commercial, office, industrial, and educational sites shall provide plentiful, convenient, and centrally located bicycle parking facilities.
- CIR-P5.8: All County facilities and park-and-ride lots shall provide appropriate bicycle amenities, including bicycle racks and storage facilities.

Goal CIR-6: Support a balanced and integrated road and highway network that maximizes the efficient mobility of people and goods in a manner that limits harm to people when traveling.

- CIR-P6.1: The County shall strive to maintain a level of service (LOS) D or better during the peak hours for County-maintained roads within the unincorporated areas of the county but outside municipalities' spheres of influence (SOI). Within a municipality's SOI, the County shall strive to meet the municipality's LOS goal. However, the County considers LOS E or F to be acceptable on the following roadways:
    - State Route 32-— East Avenue to W. Sacramento Avenue
    - State Route 32-— W. Sacramento Avenue to W. 1st Street
    - State Route 32-— W. 1st Street to W. 5th Street
    - State Route 70 —- Grand Avenue to State Route 149
    - State Route 99 – State Route 149 to Durham- Pentz Road

- State Route 99-— Durham- Pentz Road to Skyway
- State Route 99-— East 20th to State Route 32
- State Route 162 — Larkin Road to State Route 70
- Skyway — State Route 99 to Notre Dame Boulevard

- CIR-P6.2: Parcels adjacent to highways and significant roadways shall have only limited access to these facilities to maintain traffic flow and minimize potential collisions. Development shall consider access from the lowest road classification where available and feasible.
- CIR-P6.3: Street improvements within the sphere of influence of an incorporated municipality shall conform to the street standards of that municipality.
- CIR-P6.4: Major new development projects and subdivisions, as determined by the Department of Development Services, as well as other projects that meet the thresholds under the County's Traffic Impact Study Guidelines, shall prepare and implement traffic studies to assess and mitigate adverse impacts to local and regional transportation facilities.

Goal CIR-7: Develop a transportation system that is consistent with and will support existing and proposed patterns and densities of land use and that encourages efficient land utilization.

- CIR-P7.1: Rights-of-way needed for planned roads or expansion of existing roads, including facilities in the State highway system, shall be reserved, and land uses that would preclude development of such rights-of-way shall be prohibited.
- CIR-P7.2: Existing road capacity available within the County road system shall be used to serve future development unless construction of a new road will enhance circulation opportunities.
- CIR-P7.3: New roads shall be located to encourage development near existing highway corridors and existing rural community centers.
- CIR-A8.4: Encourage the Butte County Association of Governments to work with all local agencies to create a funding plan and regional traffic impact fee for necessary improvements to the State highway system.
- LU-P3.1: The County shall encourage housing that meets the needs of the local workforce, jobs that are suitable for local residents, and programs that reduce commuting and improve opportunities to live and work in the same community.
- LU-P3.3: Newly-developed neighborhoods shall include parks and recreation facilities. Sidewalks, bike paths, and other routes shall provide circulation to surrounding areas.
- LU-P4.3: Generally, higher density housing shall be along collector and arterial streets and within easy walking distance of public facilities.
- LU-P8.5: Stores providing goods and services to support daily life in neighborhoods should be within walking distance to the majority of neighborhoods.

2021 CAP Goals and Strategies	Project Consistency Analysis
	▪ **LU-P8.6:** The County shall encourage the construction of housing near employment centers, along with additional employment-generating uses near areas that are primarily residential. ▪ **LU-P8.7:** Land use patterns and development shall support the State's ability to achieve its vehicle miles traveled (VMT) and greenhouse gas (GHG) reduction goals, and the County's own VMT thresholds of significance. **Consistent:** The URCP includes the following strategies that that would be consistent with and support this goal: ▪ **Strategy CIR-2.1:** Improve the shoulders of Skyway within the Plan Area, from the Coutolenc/Skyway intersection to Lake De Sabla. ▪ **Strategy CIR-2.2:** Support the development of plans for and implementation of the grant-funded Magalia Reservoir-Paradise Lake Loop Trail. As part of this effort, provide trailheads and connector trails from the Upper Ridge Plan's residential neighborhoods to the Loop Trail, potentially from Steiffer Road and one of the streets leading east from Holmwood Drive. ▪ **Strategy CIR-2.3:** Develop plans for north and south connectors to the Magalia Reservoir-Paradise Lake Loop Trail. These connectors should include a southern leg leading from Yellowstone Kelley Trail to the Loop Trail at Magalia Reservoir and a northern leg leading from Paradise Lake to Lake De Sabla. When planning this trail, ensure trailheads and connector trails from the Upper Ridge Plan's residential neighborhoods to the Loop Trail are provided. ▪ **Strategy CIR-2.4:** Develop plans for a new east-west trail connecting the existing Magalia Community Center to the Lakeridge Circle area, including the proposed new Lakeridge Park (see Chapter 5 for details regarding Lakeridge Park). ▪ **Strategy CIR 2.5:** Provide enhanced transit bus stops with improved bus stop signage, lighting, and seating at the two transit stops in each direction on Lakeridge Circle to create better access and encourage transit ridership to Magalia Center.
Goal: Butte County residents, businesses, and visitors minimize waste sent to the landfill. ▪ **Strategy 10:** Reduce the amount of solid waste sent to local landfills through innovative programs and partnerships. ▪ **Strategy 11:** Reduce emissions from disposal and decomposition of organic waste.	**Consistent.** The General Plan Update includes the following goals, policies, and action in the Conservation and Open Space Element and Public Facilities and Services Element that would help implement this goal: ▪ **COS-P1.8:** The County shall reduce emissions from disposal and decomposition of organic waste. ▪ **COS-P1.9:** The County supports development of alternative technologies to derive fuel or energy from green waste and reduce air pollution by processing green waste. ▪ **COS-A1.6:** Implement curbside organics and green waste collection services for residences and businesses in accordance with SB 1383, including green waste collection where curbside collection is not feasible in the near term.

2021 CAP Goals and Strategies	Project Consistency Analysis
	▪ **COS-A1.7:** Develop education programs about the importance of reusing, recycling, or responsibly disposing of unwanted green waste, including on agricultural land and green waste associated with forest residue. **Goal PUB-11:** Increase recycling among Butte County residents, businesses and public agencies. ▪ **PUB-P11.1:** The County shall meet or exceed State waste diversion requirements. ▪ **PUB-P11.2:** Construction sites shall provide for the salvage, reuse, or recycling of construction and demolition materials. ▪ **PUB-P11.3:** Public buildings shall be designed or improved with on-site storage facilities for recycled materials. ▪ **PUB-P11.4:** The County shall use post-consumer recycled paper and other recycled materials for County operations whenever possible. ▪ **PUB-P11.5:** The County supports private and public composting facilities. ▪ **PUB-A11.1:** Continue to implement and expand the County's action program to achieve more aggressive recycling goals, including recycling of construction materials. **Consistent:** While the URCP does not include any strategies relevant to this goal, it would not include specific features that conflict with the implementation of this CAP goal. Additionally, the URCP would be subject to solid waste reduction efforts initiated by the County.
Goal: Butte County is a state leader in maximizing the efficiency and sustainability of natural and working lands countywide. ▪ **Strategy 12:** Work to reduce GHG emissions associated with agricultural equipment, in partnership with regional partners, agencies, and members of the agricultural community. ▪ **Strategy 13:** Track trends in agricultural operations and encourage existing and new farming techniques that reduce GHG emissions from crop cultivation. ▪ **Strategy 14:** Work with farmers and local and regional agencies to explore techniques to maximize carbon sequestration of the county's natural and working lands.	**Consistent.** The General Plan Update includes the following goal and policies in the Conservation and Open Space Element and Agriculture Element that would help implement this goal: ▪ **COS-P1.6:** The County shall explore techniques to maximize carbon sequestration of the county's natural and working lands. **Goal AG-3**: Promote innovative and economically viable agriculture. ▪ **AG-P3.1**: The County shall use the existing local working group process to cooperate with the Natural Resource Conservation Service to provide support to farmers regarding conserving water, planting drought-tolerant crops and protecting natural resources. **Goal AG-7**: Support resilient agricultural lands and practices. ▪ **AG-P7.1**: The County supports efforts by rice growers and other farmers to adopt drought- and flood-tolerant rice and other crop varieties as they become available and suitable to meet market demand. ▪ **AG-P7.2**: In partnership with the University of California (UC) Cooperative Extension and other local agricultural agencies, the County shall promote the adoption of sustainable farming practices that will aid farmers and ranchers in minimizing the effects of climate change (especially extreme temperatures and drought), safeguarding the environment, and remaining economically viable.

2021 CAP Goals and Strategies	Project Consistency Analysis
	▪ **AG-A7.1**: Work with the UC Cooperative Extension, Butte County Farm Bureau, and other agriculture organizations to develop methods to improve water use efficiency in the agricultural sector. **Not applicable:** The URCP does not contain areas used for or designated for farming (see Impact AG-1 of this EIR). In addition, the URCP would not redesignate agricultural-zoned areas (see Impact AG-2 of this EIR). Overall, the URCP involves redesignating 28 parcels from Retail and Office to Mixed-Use.
Goal: Butte County is an established leader in rural climate action and GHG reduction. ▪ **Strategy 15:** Implement projects and programs to reduce GHG emissions associated with Butte County operations.	**Consistent.** The General Plan Update includes the following policies and actions in the Conservation and Open Space Element that would help implement this goal: ▪ **COS-A1.2**: Continue to update the County program to replace County fleet vehicles with the lowest emission technology vehicles, wherever possible, including landscaping and other equipment. ▪ **COS-A1.3**: Consider the establishment of a motor vehicle emissions budget for County vehicles, including a plan to reduce motor vehicle emissions. ▪ **COS-P2.3**: All new County buildings and major renovations designed for public access and/or primary workspace shall meet, at a minimum, LEED-Silver or equivalent and the County shall use these buildings to demonstrate green building practices to builders, developers, homeowners, and others. Minor buildings of an accessory nature that are not used as public spaces and that do not serve as a primary workspace are not required to meet LEED Silver or equivalent, but shall implement practical building design, construction, and maintenance solutions as set forth under the LEED rating system or equivalent. ▪ **COS-P3.7:** Alternative energy sources such as solar shall continue to be used for County facilities, which set an example for others to follow. ▪ **COS-P4.2:** The County shall continue efforts to promote energy conservation and efficiency opportunities for all nonresidential uses, including County facilities, office space, commercial space, and industrial space. ▪ **COS-A4.2:** Pursue grants to address existing energy inefficiencies in County facilities. ▪ **COS-A4.3:** Consider giving preference to renewable energy for County purchases when feasible. **Consistent:** The URCP strategies identified for the other CAP goals above would be consistent and support this goal.

Source: Butte County 2021.

Significance without Mitigation: Less than significant.

5.8.5 CUMULATIVE IMPACTS

GHG-3	Implementation of the proposed project would, in combination with past, present, and reasonably foreseeable projects, result in a cumulative impact with respect to GHG emissions.

General Plan 2040 and URCP

Project-related GHG emissions are not confined to a particular air basin, but are dispersed worldwide. Therefore, impacts under impact discussion GHG-1 are not project-specific impacts to global warming, but are the proposed project's contribution to this cumulative impact. As described under impact discussion GHG-1, implementation of the General Plan Update and the URCP would result in an increase in GHG emissions in horizon year 2040 from existing baseline and would not meet or result in a trajectory to meet the long-term GHG reduction target under AB 1279. Therefore, project-related GHG emissions and their contribution to global climate change would be cumulatively considerable, and GHG emissions impacts would be potentially significant.

Level of Significance Before Mitigation: GHG-3 would be potentially significant.

Impact GHG-3: Implementation of the General Plan Update and the URCP would not meet the long-term GHG emission-reduction target established under AB 1279.

Mitigation Measures

Implement Mitigation Measure GHG-1.

Level of Significance After Mitigation: GHG-3 would be Significant and unavoidable. As described in impact discussion GHG-1, implementation of Mitigation Measure GHG-1 would ensure that the County prepares an update to the adopted CAP to achieve, or chart a trajectory to achieve, the long-term year 2045 GHG reduction target of AB 1279, and would ensure that the County is tracking and monitoring its GHG emissions. However, until the next CAP update is prepared, and given that additional statewide measures may be required to achieve the AB 1279 target, and there is currently no adopted statewide plan (e.g., Scoping Plan) to address the long-term year 2045 GHG reduction target set by AB 1279, Impact GHG-3 is considered significant and unavoidable.

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5.9 HAZARDS AND HAZARDOUS MATERIALS

This chapter describes the regulatory framework and existing conditions on the project site related to hazards and hazardous materials, and the potential impacts of the project on hazards and hazardous materials.

5.9.1 ENVIRONMENTAL SETTING

5.9.1.1 REGULATORY FRAMEWORK

This section summarizes key federal, State, and County policies and regulations that apply to hazards and hazardous materials in Butte County.

Federal Regulations

Environmental Protection Agency

At the federal level, the chief environmental regulator is the US Environmental Protection Agency (EPA), whose mission is to protect human health and the environment. Butte County is designated within EPA Region IX, which includes Arizona, California, Hawaii, and New Mexico. The EPA maintains responsibility for cleanup of federal lands and waterways, and the State holds regulatory authority for all other lands.

Hazardous Material Databases

Information on hazardous materials is listed in a number of databases, including the federal Superfund list, which was created through the Comprehensive Environmental Response, Conservation, and Liability Act (CERCLA) of 1980; the EPA's Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS); and the leaking underground storage tank (LUST) information system. These databases are also a primary source of information for legal disclosures, such as Phase I Environmental Site Assessments (ESAs), and to facilitate interagency cooperation.

Federal Emergency Management Agency

The primary mission of the Federal Emergency Management Agency (FEMA) is to reduce the loss of life and property and to protect the nation from all hazards, including natural disasters, acts of terrorism, and other human-made disasters, by leading and supporting a risk-based, comprehensive emergency management system of preparedness, protection, response, recovery, and mitigation.

Disaster Mitigation Act

The Disaster Mitigation Act of 2000 requires a State mitigation plan as a condition of disaster assistance, adding incentives for increased coordination and integration of mitigation activities at the state level through the establishment of requirements for two different levels of state plans: "Standard" and "Enhanced." States that develop an approved Enhanced State Plan can increase the amount of funding available through the Hazard Mitigation Grant Program. The Disaster Mitigation Act also established a new requirement for local mitigation plans.

State Laws and Regulations

California Health and Safety Code Division 20, Chapter 6.95 and California Code of Regulations Title 19

Hazardous materials are regulated by local, state and federal agencies to protect public health and the environment. Hazardous materials have certain chemical, physical, or infectious properties that threaten life, health, property, or environment and also include hazardous waste. The California Health and Safety Code (H&SC) Division 20, Chapter 6.95 provides the following definition:

> A hazardous material is a material that, because of its quantity, concentration, or physical or chemical characteristics, poses a significant present or potential hazard to human health and safety or to the environment if released into the workplace or the environment.

California Health and Safety Code Division 20, Chapter 6.5 and California Code of Regulations Title 22

Hazardous wastes are regulated by local, state and federal agencies to protect public health and the environment. Hazardous wastes have certain chemical, physical, or infectious properties that threaten life, health, property, or environment. The California Health and Safety Code (H&SC) Division 20, Chapter 6.5 provides the following definition:

> A hazardous waste 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 include waste that has been abandoned, discarded or recycled on the property and as a result represents a continuing hazard as the development is proposed. Hazardous materials also include any contaminated soil or groundwater.

State Oversight and Enforcement of Hazardous Materials and Hazardous Waste

In California, the California Environmental Protection Agency (CalEPA) and Office of the State Fire Marshall (OSFM) are chiefly responsible for regulation, reporting and handling requirements for hazardous materials. The Department of Toxic Substances Control (DTSC) is chiefly responsible for regulation, handling, treatment, and disposal of hazardous waste. 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 (DTSC 2021a; SWRCB 2022b). The Central Valley Regional Water Quality Control Board (RWQCB) oversees surface and groundwater in Butte County (SWRCB 2022a). Programs intended to protect workers from exposure to hazardous materials and from accidental upset are covered under the Occupational Safety and Health Administration at both the federal level (OSHA) and at the State level through the California Division of Occupational Safety and Health Administration (Cal/OSHA), as well as through the California Department of Health Services (DHS). Air quality is regulated

through the California Air Resources Board (CARB) and Butte County Air Quality Management District (BCAQMD) (Cal/OSHA 2021).

State Screening Levels

While there are many regulatory programs, there are fewer standards for determining exposure risks due to contamination. Currently, the most commonly used standards are the RWQCB's environmental screening levels (ESLs) for commercial/industrial and residential developments and the DTSC's California Human Health Screening Levels (CHHSL) (Central Valley RWQCB 2007; CalEPA 2005). Data bases for releases of hazardous materials or hazardous waste include EnviroStor, maintained by DTSC, and GeoTraker maintained by SWRCB for underground or aboveground petroleum storage tank releases.

Safe Drinking Water and Toxics Enforcement Act

The Safe Drinking Water and Toxics Enforcement Act, often referred to as Proposition 65, was passed into State law in 1986. The purpose of this act is to protect drinking water sources from toxic contamination, warn people of potential exposure to toxic materials, and require certain government employees to report discharges of toxic materials or threatened discharges from businesses and facilities in their jurisdiction. This law requires the State of California to develop a list of chemicals known to cause cancer or reproductive damage. The California Office of Environmental Health Hazard Assessment manages the Proposition 65 List of Chemicals (OEHHA 2022).

State of California Multi-Hazard Mitigation Plan

The State of California Multi-Hazard Mitigation Plan (SHMP) is the official statement of the State's hazard identification, vulnerability analysis, and hazard mitigation strategy. The SHMP is also a federal requirement under the Disaster Mitigation Act of 2000 for the State of California to receive federal funds for disaster assistance grant programs (Cal OES 2018). The goal of the SHMP, prepared by the Office of Emergency Services (OES), is to guide implementation activities to achieve the greatest reduction of vulnerability, which results in saved lives, reduced injuries, reduced property damages, and protection for the environment. The State OES is currently working with the California Office of Planning Research to incorporate hazard mitigation planning into General Plan guidelines.

California Fire Safety Regulations

There are number of State regulations pertaining to fire hazards, including the following.

- Public Resources Code Fire Safe Regulations. Section 4290 of the Public Resources Code (PRC) covers Fire Safe Regulations, establishing minimum road standards; signing for streets, roads, and buildings; private water supply resources; and wildland fuel modification. Section 4290 works in conjunction with building construction development standards in State Responsibility Areas (SRAs), which are State-identified lands or areas for which the California Department of Forestry and Fire Protection (CAL FIRE) has the primary responsibility to manage the public safety during a fire incident (OSFM 2021a). SRAs are defined based on land ownership, population density, and land use. In Butte County, SRAs primarily consist of private property outside of incorporated areas and outside of the valley floor. For example, CAL FIRE does not have responsibility for densely populated

areas, the valley area, or lands administered by the federal government. In addition, Section 4291 of the PRC requires annual defensible space of 100 feet to be provided around all structures in or adjoining any mountainous area or land covered with forest, brush, grass, or other flammable material.

- Wildland-Urban Interface Code. The California Building Commission adopted the Wildland-Urban Interface Codes in late 2005 with an effective date of January 2008 (OSFM 2021b). These new codes include provisions for ignition-resistant construction standards in fire-prone areas. More specifically, new buildings in any fire hazard severity zone within SRAs, any locally designated Very High Fire Hazard Severity Zone (VHFHSZ), or any Wildland-Urban Interface Fire Area must meet the requirements in the new codes (OSFM 2021b). As part of the code revision process, fire hazard severity zones were evaluated and updated. The updated fire hazard severity zones are used by building officials to determine appropriate construction materials for new buildings in the wildland-urban interface. These zones are also used by property owners to comply with natural hazards disclosure requirements at the time of property sale, including wildland areas that may contain substantial forest fire risks and hazards, and VHFHSZs. These fire hazard severity zones are also used by local governments when updating their Safety Elements.
- Uniform Fire Code. This code may be adopted by counties and local jurisdictions with amendments, and provides minimum standards for many aspects of fire prevention and suppression activities. These standards include provisions for access, water supply, fire protection systems, and the use of fire-resistant building materials. However, the Office of the State Fire Marshal (SFM), along with other State agencies, is in the process of developing and proposing a new Building and Fire Code for California using the 2006 International Building Code (IBC) and the International Fire Code (IFC) as the base document. Many jurisdictions choose to adopt their own version, as is the case in Butte County.
- California Fire Code. This is the official code for the State of California and all political subdivisions. It is in Part 9 of Title 24 of the CCR (Title 24 is commonly referred to as the California Building Standards Code). The California Fire Code is revised and published every three years by the California Building Standards Commission. It was most recently published in 2019 (CBSC 2021).
- California Health and Safety Code. This code regulates the abatement of fire-related hazards. It also requires that local jurisdictions enforce the Uniform Building Code, which provides standards for fire-resistant building and roofing materials, and other fire-related construction methods.
- California Code of Regulations. Title 19 of the CCR establishes regulations related to fire prevention and engineering measures for new construction.
- Assembly Bill (AB) 337 (Bates Bill). In response to the Oakland Hills fire of 1991, this bill was passed in 1992. It requires brush clearance and fire-resistant roof material (Class A, B, or C) to be used on all new construction that is in any fire hazard severity zone.

California Department of Forestry and Fire Protection

CAL FIRE provides fire protection service to the entire county, with the exception of Chico, Oroville, Paradise, and the El Medio Fire Protection District near Oroville. Under a mutual-aid contract, the Butte County Fire Department (BCFD) contracts for staff with CAL FIRE. CAL FIRE/BCFD services include fire control,

emergency medical service, technical rescue response, hazardous materials response, flood-control assistance, fire prevention and public safety education, fire law enforcement/arson investigation, and vegetation management. In addition, CAL FIRE/BCFD operates countywide dispatch services, coordinates major emergency response within the county as the mutual-aid coordinator, and provides training for career and volunteer firefighters.

Hazardous Materials Transportation Act

Transportation of hazardous materials on the highways is regulated through the federal Department of Transportation (DOT) and the California Department of Transportation (Caltrans). These agencies use a system of placards, labels, and shipping papers required to identify the hazards of shipping each class of hazardous materials. Existing federal and State laws address risks associated with the transport of hazardous materials. These laws include regulations outlined in the Hazardous Materials Transportation Act administered by the DOT.[1] Caltrans is mandated to implement the regulations established by the DOT, which are published as the Code of Federal Regulations, Title 49, commonly referred to as 49 CFR. The California Highway Patrol (CHP) enforces these regulations. Regulations of hazardous materials and wastes include the manufacture of packaging and transport containers; packing and repacking; labeling; marking or placarding; handling; spill reporting; routing of transports; training of transport personnel; and registration of highly hazardous material transport.

Regional Regulations

Hazardous Materials Oversight

Use, storage, and transportation of hazardous materials and hazardous waste is heavily regulated by federal, State, and local agencies, including CalEPA, DTSC, SWRCB and OSFM which are authorized to implement the regulations of the federal EPA. The Butte County Public Health Department, Environmental Health Division is a Certified Unified Program Agency (CUPA). The CUPA program includes inspection and enforcement of the following hazardous material programs:

- Hazardous Material Release Response Plan (HMRRP)
- California Accidental Release Prevention (CalARP)
- Underground Storage Tank (UST)
- Aboveground Petroleum Storage Act (APSA)
- Hazardous Waste Generator and Treatment

Regulation and permitting of potentially hazardous emissions into the atmosphere is handled by the BCAQMD. BCAQMD's rules and regulations control emissions from open burning, incineration, smoke, dust, odors, gasoline, paint; and other sources of particulate or gaseous emissions. The three main enforcement tools applied by BCAQMD are the Notice of Noncompliance (NON), the Notice to Comply (NTC), and the Notice to Apply for a Permit (NTA). These notices are a formal record of BCAQMD's finding that a violation

[1] Code of Federal Regulations, Title 49, Parts 100-185 Hazardous Materials Transportation Requirements.

of a State or federal law or local regulation affecting air quality has occurred. In most cases, taking corrective action and paying a penalty can settle a violation. A NON can also involve monetary penalties, civil suits, or criminal prosecution in failure to respond, repeated violation, or serious pollution cases.

Local Regulations

Butte County General Plan 2030

The following policies are included in the existing General Plan regarding hazards and hazardous materials. The numbering is from the existing General Plan and therefore may not be consecutive.

Water Resources Element

- Goal W-1 Maintain and enhance water quality.
    - W-P1.1 County planning and programs shall be integrated with other watershed planning efforts, including best management practices, guidelines and policies of the Central Valley Regional Water Quality Control Board (CVRWQCB).
    - W-P1.2 The County shall cooperate with State and local agencies in efforts to identify and eliminate or minimize all sources of existing and potential point and non-point sources of pollution to ground and surface waters, including leaking fuel tanks, discharges from storm drains, auto dismantling, dump sites, sanitary waste systems, parking lots, roadways and logging and mining operations.
    - W-P1.3 Regulations that protect water quality from the impacts from agricultural activities shall be maintained.
    - W-P1.4 Where appropriate, new development shall be Low Impact Development (LID) that minimizes impervious area, minimizes runoff and pollution and incorporates best management practices.
    - W-P1.5 Pest-tolerant landscapes shall be encouraged to minimize the need for pesticides.
    - W-P1.6 Educational programs and outreach shall be continued to promote water quality protection and limit pollution from pesticides and nutrients in urban and domestic settings.
    - W-P1.7 Agriculture, logging, mining, recreational vehicle use and other open space uses shall follow best management practices to minimize erosion and protect water resources.
    - W-P1.8 The County supports conversion from septic systems to public sewer service, where feasible.
    - W-P1.9 The County supports the establishment of a system for proper disposal of expired medications.

Health and Safety Element

- Goal HS-2 Protect people and property from flood risk.
    - HS-P2.1 The County supports the efforts of regional, State and federal agencies to improve flood management facilities along the Sacramento River while conserving the riparian habitat of the river.
    - HS-P2.2 The County supports the efforts of private landowners and public agencies to maintain existing flood management facilities.
    - HS-P2.3 The County supports the Flooding Mitigation Action Plan in the Butte County Local Hazard Mitigation Plan.
    - HS-P2.4 Development projects on lands within the 100-year flood zone, as identified on the most current available maps from FEMA [the most current available map at the time of the publication of General Plan 2040 is shown on Figure HS-1], shall be allowed only if the applicant demonstrates that it will not:
        a. Create danger to life and property due to increased flood heights or velocities caused by excavation, fill, roads and intended use.
        b. Create difficult emergency vehicle access in times of flood.
        c. Create a safety hazard due to the height, velocity, duration, rate of rise and sediment transport of the flood waters expected at the site.
        d. Create excessive costs in providing governmental services during and after flood conditions, including maintenance and repair of public facilities.
        e. Interfere with the existing water conveyance capacity of the floodway.
        f. Substantially increase erosion and/or sedimentation.
        g. Require significant storage of material or any substantial grading or substantial placement of fill that is not approved by the County through a development agreement, discretionary permit, or other discretionary entitlement; a ministerial permit that would result in the construction of a new residence; or a tentative map or parcel map.
        h. Conflict with the provisions of the applicable requirements of Government Code Sections 65865.5, 65962 or 66474.5.
    - HS-P2.5 The lowest floor of any new construction or substantial improvement within Flood Zones A, AE, AH and AO, as shown in Figure HS-1 or the most current maps available from FEMA, shall be elevated 1 foot or more above the 100-year flood elevation. (County Flood Ordinance Sec. 26-22).
    - HS-P2.4 The County shall make specific findings prior to approval of a development agreement, tentative or parcel map, a subdivision or discretionary permit or other discretionary entitlement, or any ministerial permit that would result in the construction of a new residence. Findings shall be consistent with California

Department of Water Resources (DWR) Urban Level of Flood Protection Criteria within the 200-year floodplain, if applicable.

- HS-P2.4 The County shall not, and will encourage other agencies within its bounds to not, locate new essential government service facilities (as defined in Section 2) and essential health-care facilities in Flood Zones A, AE, AH and AO, as shown in Figure HS-1 or the most current maps available from FEMA, and within the 200-year floodplain, as shown in Figure HS-2, and as defined in Government Code Section 65007. Essential facilities in these areas shall have heightened flood protection.

- Goal HS-3 Prevent and reduce flooding.
  - HS-P3.1 Watersheds shall be managed to minimize flooding by minimizing impermeable surfaces, retaining or detaining stormwater and controlling erosion.
  - HS-P3.2 Applicants for new development projects shall provide plans detailing existing drainage conditions and specifying how runoff will be detained or retained on-site and/or conveyed to the nearest drainage facility and shall provide that there shall be no increase in the peak flow runoff to said channel or facility.
  - HS-P3.3 All development projects shall include stormwater control measures and site design features that prevent any increase in the peak flow runoff to existing drainage facilities.
  - HS-P3.4 Developers shall pay their fair share for construction of off-site drainage improvements necessitated by their projects.
- Goal HS-4 Reduce risks from levee failure.
  - HS-P4.1 The County supports the efforts of regional, State or federal agencies to study levee stability throughout the county, particularly levees that were designed and constructed to provide a minimum 100-year level of protection.
  - HS-P4.2 The County supports the efforts of levee owners and regional, State or federal agencies to design and reconstruct levees that do not meet flood protection standards (200-year for urban or urbanizing areas, 100-year flood zones for all other areas) to bring them into compliance with adopted State and/or federal standards.
  - HS-P4.3 New development proposals in levee inundation areas shall consider risk from failure of these levees.
- Goal HS-5 Reduce risks from dam inundation.
  - HS-P5.1 New development proposals in dam inundation areas, as mapped in Figure HS-4 or the most current available mapping, shall consider risks from failure of these dams.
  - HS-P5.2 Risk of failure on new development proposals in the dam inundation areas for the Black Butte, Whiskeytown and Shasta dams shall be coordinated between the Bureau of Reclamation, Butte County Department of Development Services and Butte County Office of Emergency Management.

- Goal HS-11 Reduce risks from wildland and urban fire.
    - HS-P11.1 Fire hazards shall be considered in all land use and zoning decisions, environmental review, subdivisions review and the provision of public services.
    - HS-P11.2 Create communities that are resistant to wildfire by supporting the implementation of community wildfire protection plans and wildfire fuel load reduction measures in coordination with the appropriate government, community group, or non-profit organization and California Department of Forestry and Fire Protection (CAL FIRE).
    - HS-P11.3 The County supports the Wildfire Mitigation Action Plan, the Butte County Local Hazard Mitigation Plan (LHMP), and the Butte Unit Community Wildfire Protection Plan prepared by CAL FIRE and will cooperate with the Butte County Fire Department and the Butte County Fire Safe Council in implementing these plans.
    - HS-P11.4 New development projects shall meet current fire safe ordinance standards for adequate emergency water flow, emergency vehicle access, signage, evacuation routes, fuel management, defensible space, fire safe building construction and wildfire preparedness.
- Goal HS-12 Protect people and property from wildland or urban fires.
    - HS-P12.1 Regulations regarding vegetation clearance around structures, including the removal of ladder fuels, shall be maintained and enforced.
    - HS-P12.2 Fuel breaks shall be required along the edge of developing areas in High and Very High Fire Hazard Severity Zones, as shown in Figure HS-9 or the most current data available from CAL FIRE.
    - HS-P12.3 Fire resistant landscaping and fuel breaks shall be required in residential areas.
    - HS-P12.4 All development projects in wildland urban interface areas in High or Very High Fire Hazard Severity Zones shall provide, at a minimum, small-scale water systems for fire protection. After wildfires, the County shall assess risks of landslide, erosion and flooding in burn areas and cooperate with other appropriate agencies on plans to mitigate these risks.
- Goal HS-13 Identify safe and effective evacuation routes and access for fire prevention and suppression.
    - HS-P13.1 New development in High or Very High Fire Hazard Severity Zones, as shown in Figure HS-9, shall identify access and egress routes and make improvements or contribute to a fund to develop, upgrade and maintain these routes.
- Goal HS-14 Reduce risks from the harmful effects of hazardous materials.
    - HS-P14.1 The County supports the Hazardous Materials Emergency Response Plan (Area Plan).

- HS-P14.2 Hazardous materials carrier routes shall be designated to direct hazardous materials transport away from populated areas.
- HS-P14.3 Hazardous and toxic materials shall be transported only along the designated highway and rail routes shown in Figure HS-11.
- HS-P14.4 Proponents of new hazardous waste management facilities shall demonstrate that potential environmental impacts can be mitigated as a condition of approval.
- HS-P14.5 Environmental assessment and/or investigation shall be required prior to General Plan Amendment or Rezone approval that would allow uses with sensitive receptors, such as residential developments, schools, or care facilities, on sites previously used for commercial, industrial, agricultural or mining uses to determine whether soils, groundwater and existing structures are contaminated and require remediation. Policies and oversight authority shall follow Health and Safety Code Division 20, Chapters 6.5 and 6.8 when determining jurisdiction.

- Goal HS-15 Ensure that Butte County is prepared for emergency situations.
  - HS-P15.1 The County shall conduct continuous advance planning to anticipate potential threats and improve emergency response effectiveness.
  - HS-P15.2 Critical emergency response facilities such as fire, police, emergency service facilities and utilities shall be sited to minimize their exposure to flooding, seismic effects, fire, or explosion.
  - HS-P15.3 Emergency access routes shall be kept free of traffic impediments.
  - HS-P15.4 Streets and developed properties shall be clearly marked to enable easy identification.
- Goal HS-16 Provide for the health, safety and well-being of the county's present and future residents.
  - HS-P16.1 Physical infrastructure shall promote public health.
  - HS-P16.2 The County shall promote opportunities for physical activities, such as walking and biking, and encourage patterns of new development that promote physical activity and encourage bicycling, walking and transit.
  - HS-P16.3 The County shall work with the incorporated municipalities and private landowners to improve access to markets, gardens, parks and transportation.
  - HS-P16.4 Community gardens and farmers markets shall be supported and encouraged as a means to provide access to healthy and local foods.
  - HS-P16.5 The County shall continue to work collaboratively with vector control, Mosquito Abatement Districts and other agencies to protect public health in Butte County.
  - HS-P16.6 Available State-generated community health information, such as incidence of diabetes or heart disease, shall be considered when making decisions about the built environment that could affect community health.

- HS-P16.7 County offices and County-sponsored events shall promote healthy communities by modeling healthy practices, for example, by offering safe and ample bicycle parking at County offices or by offering healthy food choices at County events.
- HS-P16.8 The County shall encourage the provision of basic health and medical services in schools.

Butte County Hazardous Waste Management Plan

The Butte County Hazardous Waste Management Plan was completed and approved by the Butte County Board of Supervisors and all of the incorporated municipalities in 1989, and approved by the California Department of Health Services in 1991. The goals of the plan reflect the County's intent to reduce the need for additional hazardous waste disposal sites by reducing the amount of waste generated. Goals related to waste reduction include minimizing waste at its source, recycling waste, and reducing the quantity of hazardous substance used. The goals place particular priority on recycling of waste oil, which constitutes the largest portion of the county's waste stream. Goals related to public health and safety focus on properly treating waste, ensuring safe transportation of waste on the key transportation routes, and siting community collection and transfer stations to contribute to proper handling of the county's waste.

Hazardous Materials Emergency Response Plan

The County's Public Health Department, Environmental Health Division has developed a Hazardous Materials Emergency Response Plan (Area Plan) containing processes and strategies for responding to emergencies involving hazardous materials in the county. Hazardous materials incidents result from cleanup of waste, especially drug labs, highway collisions involving tankers or other hazardous transporters, industrial accidents, accidental rupture of a pipeline or tank during construction or demolition, or from a natural disaster such as a flood or landslide that damages a hazardous materials container or pipeline.

Handling of such emergencies is regulated under both federal and State laws that are designed primarily to protect human health and to safeguard the environment.

In Butte County, a unified team from the fire departments of Chico, Oroville, Paradise, Biggs, Gridley, Butte County, and CAL FIRE, operating under a Joint Powers Agreement, serves as first responders to hazardous materials incidents or emergencies. Several agencies, including the Public Health Department, act as support to the team when requested.

Butte County Airport Land Use Compatibility Plan

The Butte County Airport Land Use Commission is charged with promoting land use compatibility around the county's airports to minimize public exposure to excessive noise and safety hazards. This is primarily accomplished through the preparation and periodic update of an Airport Land Use Compatibility Plan (ALUCP), the most recent of which was adopted in 2000. The ALUCP encompasses the four principal airports in the county: Chico Municipal Airport, Oroville Municipal Airport, Paradise Skypark Airport, and the Ranchaero Airport. Public Utilities Code Section 21676 requires that the Butte County General Plan be in conformance with the ALUCP, unless the Board of Supervisors makes specific findings to overrule the ALUCP

or portions of it. The ALUCP is also discussed in Section 5.11, *Land Use and Planning*, of this environmental impact report (EIR).

Butte County Code

Several sections of the Butte County Code address hazards and safety in Butte County, including the following.

- Chapter 8 addresses the preparation and execution of plans for the protection of persons, the environment, and property within Butte County in the event of an emergency; the direction of the emergency services organization; and the coordination of the emergency functions of Butte County with the Cities of Chico, Oroville, Gridley, and Biggs; the Town of Paradise; and all other affected public agencies, corporations, organizations, and private persons within Butte County.
- Similarly, Chapter 20 lists improvement standards for subdivisions, parcel maps, and site improvements to better execute plans in the event of an emergency.
- Chapter 38A, Fire Prevention and Protection, supplements fire prevention and protection statutes, regulations, and ordinances enacted by the State, County, and other governmental entities.

Butte County Multi-Jurisdictional All Hazard Pre-Disaster Mitigation Plan

The Butte County Multi-Jurisdictional All Hazard Pre-Disaster Mitigation Plan (MHMP) was adopted in March 2007. The overall intent of the MHMP is to reduce or prevent injury and property damage from hazards in the county. It identifies past and present mitigation activities, current policies and programs, and mitigation strategies for the future. The MHMP also establishes hazard mitigation goals and objectives to save lives and reduce injures, avoid damages to property, protect the environment, and promote hazard mitigation as an integrated policy.

The MHMP also includes Mitigation Action Plans for each of the hazard types it covers, including wildfires, floods, earthquakes, landslides, extreme weather, volcanoes, insect infestations, naturally occurring biological threats, dam failure, hazardous materials incidents, and terrorism.

Butte County Emergency Operations Plan

The Butte County Emergency Operations Plan (EOP) serves as the official emergency plan for Butte County. It includes planned operational functions and the overall responsibilities of County departments during an emergency situation.

The EOP is designed to focus on potential large-scale disasters, rather than daily emergencies that are regularly handled by local law enforcement and protection agencies. The EOP defines the County's planned response to "extraordinary" emergency situations associated with natural disasters, technological incidents, and nuclear defense operations. The EOP is activated by the following alarms or incidents:

- An order of the Butte County Board of Supervisors.
- A state of emergency proclaimed by the Governor.
- A proclaimed state of war emergency.

- A presidential declaration of a national emergency.
- Upon receipt of an attack warning.
- An indication of a nuclear detonation.

The EOP contains a threat summary for Butte County and includes an analysis of natural, technological, and human-caused disasters.

Office of Emergency Services

Butte County maintains an OES to coordinate interagency and intergovernmental comprehensive emergency management planning, operations, and disaster assistance claims management for the county. OES works with State and local agencies to develop effective emergency response systems within the county. OES acts as the requesting and coordinating agency when situations require the involvement of State and other outside agencies.

Butte County Fire Department

Since 1931, CAL FIRE has provided staffing to the BCFD through an annual cooperative agreement with the County. Under the terms of this agreement, the County funds CAL FIRE professional command, fire-fighting, and administrative staff to operate the BCFD. Through this arrangement, CAL FIRE and the BCFD function together as a fully consolidated fire protection agency and provide cost-effective fire protection service for Butte County.

5.9.1.2 EXISTING CONDITIONS

Hazardous Materials

Hazardous materials include a wide variety of substances commonly used in households and businesses. Used motor oil, paint, solvents, lawn care and gardening products, household cleaners, gasoline, and refrigerants are among the diverse range of substances classified as hazardous materials. Nearly all businesses and residences generate some amount of hazardous waste. Certain businesses and industries generate larger amounts of such substances, including gas stations, automotive service and repair shops, printers, dry cleaners, and photo processors. Hospitals, clinics, and laboratories generate medical waste, much of which is also potentially hazardous.

Hazardous Materials Transport

Nearly all of the hazardous materials transported through Butte County are carried by truck on the State Highway system. Highways that allow for hazardous materials transport include State Route (SR-) 99, SR-149, SR-32, SR-191, SR-70, SR-162, and SR-45. County roads and city streets are used to transport locally generated wastes from the source to the regional highway system. The County has not quantified the amount of hazardous materials that are transported through it to adjoining counties or states.

Transportation of hazardous materials on the highways is regulated through the Federal Department of Transportation (DOT) and the California Department of Transportation (Caltrans). This includes a system of placards, labels, and shipping papers that must identify the hazards of shipping each class of hazardous materials. Existing federal laws which address risks associated with the transport of hazardous materials include the Materials Transportation Act, administered by the DOT. At the State level, Caltrans implements the DOT regulations and the California Highway Patrol (CHP) enforces them. Regulation of hazardous materials and wastes include the manufacture of packaging and transport containers, packing and repacking, labeling, marking or placarding, handling, spill reporting, routing of transports, training of transport personnel, and registration of highly hazardous material transport.

Little to none of the hazardous waste is currently transported through the county via rail. Historically, however, there has been considerable transport of hazardous materials by rail, and a number of investigations have documented contamination. One notable study is a public health assessment of the Western Pacific Railroad Oroville Yard, located on dredger tailings east of the Feather River two miles south of Oroville (Agency for Toxic Substances and Disease Registry 1992). The RWQCB identified three primary sources of contamination on the site: a roundhouse or fueling area, an unlined surface impoundment, and an oil-water separator. The nature and extent of contamination is not well known due to a lack of sampling and analytical testing. However, heavy metals, chlorinated solvents, and petroleum hydrocarbons (including benzene, xylene, toluene, and ethylbenzene) are all identified as potentially occurring at this site and could represent a significant hazard.

Hazardous Materials Sites

Department of Toxic Substances Control

A search of the DTSC database of hazardous materials sites identified 27 active sites in Butte County, including four sites with active land use restrictions, five sites with certified and operation or maintenance status, two sites with an operating permit, and one site undergoing closure (DTSC 2021b). These sites include areas within incorporated cities, as they still require permitting by the County Public Health Department. Of these sites, two are listed as federal superfund sites: Koppers Industries, located off Baggett-Marysville Road in Oroville, and Western Pacific Railroad, south of Oroville.

Victor Industries, a former metal tube and can manufacturing facility, produced flexible tubes and aerosol cans using lead and aluminum. From 1958 to 1985, the company used trichloroethylene (TCE) to clean its product-line machinery at the 20th Street and airport sites from as early as 1946 until 1958. In 1984, volatile organic compounds (VOCs), primarily TCE, were detected in public drinking supply wells at the airport. The DTSC issued a Remedial Action Order (RAO) in January 1989, and an Imminent and Substantial Endangerment (I/SE) Order was issued in November 1990 to the responsible parties. In 1994, a soil vapor extraction system (SVE) was installed as an interim remedial measure to remove soil and groundwater contamination near the source. The SVE system operated from January 1995 to January 1997 and removed approximately 3,804 pounds of TCE. The SVE system was shut down in 1997 due to low influent concentrations. In March 1994, a groundwater extraction system was installed to prevent further migration of the TCE contamination beyond the runway. As a result of contamination, future site uses, such as a daycare facility, school, elder care facility, nursing home, or hospital are prohibited. Groundwater extraction

and treatment is ongoing, and the site was be re-evaluated in 2008. The airport site was removed from the DTSC list, but the site on 20th Street is still active.

At the manufacturing facility on 20th Street in Chico, solvent waste was allegedly dumped on the ground. In 1985, the site was stabilized via a DHS enforcement action, which resulted in excavating the top six inches of contaminated soil. This site has been identified as a source of groundwater contamination in the southwest Chico plume. Nearby municipal wells screened in deep aquifer zones show detectable concentrations of TCE.

The site formerly owned by Koppers Industries Inc. is on a 200-acre parcel just south of the City of Oroville and 3,000 feet east of the Feather River. The site was used as a wood treating facility, which ceased operation in 2001 and was the main source of contamination. The US EPA added the site to the National Priority List (NPL) in September 1984, and a consent decree for Remedial Design/Remedial Action became effective on February 7, 1992. Approximately 120,000 cubic yards of contaminated soil were excavated from the site in 1992. Groundwater was treated through a pump-and-treat system that was stopped in December 1995 due to the dramatic reduction in contaminant plume size. Remaining levels of contaminants of concern on the property meet industrial standards for future development, but a zone of contaminated groundwater of approximately four acres remains. A deed restriction for the site was filed with Butte County on November 12, 2003.

The Louisiana Pacific (LP) Corporation-Chico facility was also a wood treatment plant. The approximately 140-acre property has recorded contamination from formaldehyde, pentachlorophenol (PCP), heavy metals, solvents, and fuel oil wastes, which were released, buried, and/or burned on-site. In March 1992, elevated concentrations of PCP were detected in on-site wells. According to the DTSC, contamination is limited by current pumping restrictions due to existing TCE contamination in the vicinity of the subject site. Soil was removed and disposed off-site in 1992. In 1995, arsenic-contaminated soil was excavated, consolidated, and capped on-site. A groundwater pump-and-treat system was installed and operated from 1997 to 2003. Groundwater monitoring continues.

Another notable site in Butte County with active restrictions is the Western Pacific Railroad Co. property approximately one mile southwest of the City of Oroville. The 90-acre site traversed by the railroad has a small groundwater plume. The main contaminant of concern in the groundwater is chlorinated compounds, which were detected in an on-site public drinking water supply well in 1986. In 1990, the EPA placed the site on the NPL. In 1998, approximately 1,720 tons of polyaromatic nuclear hydrocarbons were excavated and disposed off-site. A deed restriction limiting future use to industrial activities only was recorded in 2001.

Two sites with an active status have been added to the DTSC list due to the 2018 Camp Fire and the 2020 North Complex Fire. The Ridgeview Continuation High School in the Town of Paradise has an active case as the Paradise School District prepares to build a new continuation high school at 5944 Maxwell Drive. The other site is Sampson Lode, which was burned in the 2020 North Complex Fire. This site is in an evaluation phase to assess contamination levels due to the wildfire.

Groundwater Plumes

Groundwater plumes form when contaminated or hazardous materials percolate down through the soil into the groundwater basin below. Three of the sites listed in the DTSC database are reported for contributing to groundwater contamination, especially in the Chico area. Many of these sites are also listed in the SWRCB inventory of underground storage tanks and leaking underground fuel tanks (SWRCB 2021). Due to the concentration of industry around Chico, there are two large plumes, the North Central Plume and the Southwest Plume.

The North Central Plume is the largest groundwater plume in the Chico area, with concentrations of perchloroethylene (PCE) as high as 2,900 parts per billion (ppb). This plume caused at least two wells to be taken out of service in 1985 and abandoned by the California Water Service Company in 1990. Monitoring wells installed by the DTSC in 1988 showed both of the major drinking water aquifers, the Intermediate Zone Aquifer (IZA) and the deep Zone Aquifer (DZA), were contaminated with PCE. The Shallow Zone Aquifer (SZA) is also contaminated with PCE but it is not used for drinking water. Potential migration pathways are leaky sewer lines, dry wells, and general seepage of waste through unlined landfills or makeshift disposal areas. The DTSC has identified two dry cleaners as major contributors to the Central Plume: Flair Custom Cleaners and Esplanade Cleaners. In July 1995, DTSC installed a two-well pump-and-treat system as an interim remedial measure to provide source control within the aquifer immediately down-gradient from Flair Custom Cleaners. According to the DTSC, the system continues to remove significant amounts of PCE from the aquifer and appears to have been a significant factor in stabilizing the plume. In 2007, a Remedial Action Plan was finalized and three extraction wells and one monitoring well was installed in the shallow zone of the aquifer.

On the subject of the Southwest Plume, the Butte County Department of Public Health released a public notice regarding groundwater contamination in the Chico area on October 20, 2006. This action was required in accordance with the Safe Drinking Water and Enforcement Act of 1986 (Prop. 65). The notice described a sampling of a private well in the Miller Avenue area of west Chico, which identified 150 parts per billion tetrachloroethylene (TCE), which is 30 times the maximum contaminant level for public water supplies. TCE is considered hazardous since it is known to cause nervous system depression (intoxication), liver and kidney damage, among other effects. The notice indicated that further sampling and testing of groundwater would be undertaken from a collection of monitoring wells installed and evaluated by the DTSC. Since TCE was previously identified in the late 1980s in the Miller Avenue and Northgate Avenue areas, the California Water Service Company extended public water mains to the affected neighborhoods in 1991. In January 1992, a carbon treatment unit was purchased and installed to decrease PCE concentrations. After soil gas sampling conducted in 2001, quarterly groundwater monitoring was reinstated.

Burn Sites

Another class of hazardous materials sites that pose a particular threat to the atmosphere is burn sites, where waste is burned to reduce volume rather than being simply buried in the ground. Burn sites are seldom allowed in municipal areas, but in largely rural Butte County there are a few that have been designated.

In 2006, the DTSC certified the Allen Property Burn Piles, at Nord and Esplanade highways in Chico, indicating that cleanup of the site was completed satisfactorily enough to allow future development to proceed. The cleanup stemmed from Butte County's concerns about public health after a construction firm, hired by the property owner to clear away and burn debris from the 70-acre site, burned PVC plastic irrigation hose and pressure-treated chromated copper arsenate post and treated wood trellis. Due to health and safety concerns, Butte County authorities stopped the burns and ordered the construction company to clean the site. DTSC testing of the burn piles revealed soil contaminated with arsenic. The burned material was excavated and transported to a permitted landfill. As a result of the unpermitted burning, the responsible construction firm was put on probation for three years and forced to pay a fine.

In 2005, the DTSC certified another burn site known as the Humboldt Road Burn Dump, also in Chico. This site, the City's primary disposal area, has been the subject of extensive investigation and contains large amounts of burn dump waste.

Hazardous Waste Disposal

Butte County has no registered Class I landfill facilities, which are facilities able to accept hazardous waste. There are only two remaining Class I landfills in California permitted to receive untreated hazardous wastes: the Kettleman Hills facility in Kings County and the Casmalia Resources Facility in Santa Barbara County. The Butte County Hazardous Waste Management Plan identified that the amount of hazardous wastes produced or brought into the county cannot economically support the development of a Class I facility within Butte County.

The largest landfill in Butte County is the Neal Road Recycling and Waste Facility (NRRWF) , a Class III facility (one that can only accept non-hazardous waste), at 1023 Neal Road. The Solid Waste Division of the Butte County Department of Public Works is responsible for operating this landfill and coordinates collection and disposal of solid waste with the cities in Butte County, as well as other public agencies such as the RWQCB, DTSC, and the California Department of Resources Recycling and Recovery (CalRecycle). The Neal Road Recycling and Waste Facility was damaged during the 2018 Camp Fire but has since been repaired. The landfill received emergency waivers to accept additional waste from the fires, such as ash, and debris for disposal, as well as concrete, and metals for recycling after the Camp Fire and 2020 North Complex Fire. According to County Public Works staff, the landfill is currently scheduled to close in 2048.

While there are no hazardous waste facilities for large volumes of waste, Butte County did assume responsibility of a permanent household hazardous waste collection facility in 2002, located adjacent to the Chico Airport and operated under contract by NRC Environmental Services. The facility provides a controlled environment for receiving and processing household hazardous waste from all residents of Butte County. Conditionally exempt small quantity generators can also use the facility. Household hazardous waste can also be disposed at the Recology facilities in Oroville, for City of Oroville residents and Recology customers. A mobile household hazardous waste program targets outlying areas of the county. Household hazardous wastes include antifreeze, motor oil, oil filters, latex and oil based paint, pesticides, herbicides, poisons, aerosols, gasoline, paint-related products (thinner, stain, varnish, and lacquers), bleaches, polishes, solvents, batteries, household cleaning supplies, pool chemicals, hobby supplies, fluorescent light tubes, mercury thermostats, and electronic waste, including computer monitors, televisions, and other items containing cathode ray tubes.

Recology Butte Colusa Counties in Oroville and Waste Management Inc. in Gridley operate additional household hazardous waste facilities for the benefit of their customers in Oroville, Gridley, and Chico. Recology Butte Colusa Counties operates a transfer facility at 2720 South Fifth Avenue in Oroville. Waste Management Inc. operates a transfer station off Ord Ranch Road in Gridley.

The California Department of Resources Recycling and Recovery (CalRecycle) has estimated the percentage of waste in several categories, including household hazardous waste and special wastes (CalRecycle 2021). The latter includes ash, sewage solids, industrial sludge, treated medical wastes, bulky items, tires, and composite waste. Out of an estimated 88,648 tons of residential waste, approximately 0.3 percent (196 tons) was defined as household hazardous waste, and 2 percent (840 tons) as special waste (CalRecycle 2021). Out of an estimated 117,742 tons of commercial or business waste, approximately 0.1 percent (165 tons) was classified as household hazardous waste and 1.2 percent (1,448 tons) was classified as special waste (CalRecycle 2021).

Hazardous Materials Emergency Response

Hazardous materials incidents result from cleanup of waste, especially drug labs, highway collisions involving tankers or other hazardous transporters, industrial accidents, accidental rupture of a pipeline or tank during construction or demolition, or from a natural disaster such as a flood or landslide that damages a hazardous materials container or pipeline.

Handling of such emergencies is regulated under both federal and State laws, which are designed primarily to protect human health and, secondarily, to safeguard the environment. Minimum training is 40 hours in accordance with State law and is required of many contractors and truck drivers, most industrial workers, and emergency response personnel, such as firefighters or policemen.

In Butte County, the Interagency Hazardous Material Team serves as first responders to hazardous materials incidents or emergencies. The team was first organized by the Butte County Fire Chiefs Association in 1989 through the use of a Joint Powers Agreement. Team members are from the fire departments of Chico, Oroville, Paradise, Biggs, Gridley, Butte County, and CAL FIRE. The team is composed of 30 to 40 hazardous materials specialists and technicians, with additional technicians who provide support. The team staffs two units: Haz Mat 64, stationed at the Kelly Ridge Fire/Butte County Station, and Haz Mat 1, stationed at Chico Station 1. There are approximately 60 annual responses; drug labs and related waste are the main cause of incidents.

Naturally Occurring Asbestos

Naturally occurring asbestos is a hazardous material associated with serpentine rocks, which are found in the foothill and mountain regions of Butte County. The amount of naturally occurring asbestos present in such rocks can vary widely, and is generally only hazardous when it is released into the air when broken or crushed.

Airport Hazards

The major aviation facilities in Butte County include the following:

- Chico Municipal Airport. This is the largest airport in Butte County and the only one with regularly scheduled commercial service. It is owned and operated by the City of Chico. The airport has two paved runways and is served by one commuter airline, United Express, with daily flights to and from San Francisco. Charter services, Federal Express, cargo carriers, and public agencies also operate out of the airport.
- Oroville Municipal Airport. This airport is owned by the City of Oroville, but is privately operated. It is the second-largest airport and serves the south county area. The airport's two paved runways serve general aviation aircraft and business jets.
- Paradise Skypark Airport. This airport is privately owned and operated with one runway. It is an important regional base for skydiving.
- Ranchaero Airport. This airport is privately owned and operated with one runway. Flight instruction makes up a large portion of its daily operations.

There are also two private airstrips in unincorporated Butte County: the Richvale Airport, at 1764 Richvale Highway, and the Johnson Ag-Viation, between Highway 99 and the Riceton Highway directly west of the Thermalito Afterbay. Approximately 14 multi-engine aircrafts and one helicopter use the Johnson Ag-Viation airstrip almost on a daily basis.

Fire Hazards

Urban Fire Hazards

Urban fire risk in Butte County is greatest in older structures and neighborhoods built before modern building codes for fire safety and building systems were in place. Other factors affecting urban fire risk and relative likelihood of loss of life or property include building age, height, and use; storage of flammable material; building construction materials; availability of sprinkler systems; and proximity to a fire station and hydrants.

Evacuation and Access

In more remote parts of the county, the potential risk of losses from wildland fires is exacerbated by the relatively poor access offered by rural roads and the general lack of pressurized fire systems with fire hydrants. Fire safety issues are a concern for the Paradise and Magalia area and other unincorporated communities on the Upper Ridge due to limited road access to and through the area. The Skyway, the major county arterial that serves Paradise, and the Magalia area, has a limited capacity that could negatively affect evacuation and access by emergency vehicles in the event of a natural disaster. Although an EIR on a project to widen the Skyway from two to four lanes from Pentz Road to South Park Drive was certified in 2005, funding has not been available to complete the widening.

The Upper Ridge communities are especially vulnerable to wildfires because they are isolated on top of a relatively narrow, wooded ridgeline. The existing two-lane roadway across the Magalia Reservoir dam also creates a potential bottleneck for evacuation during catastrophic events. In addition to the anticipated problems created by emergency access and congestion during an evacuation, an earthquake is capable of causing the main earthen Magalia Reservoir dam to subside, which would result in partial or total loss of the roadway.

5.9.2 STANDARDS OF SIGNIFICANCE

The proposed project would result in a significant hazards and hazardous materials impact if it would:

1. Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials.
2. 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.
3. Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within 0.25 miles of an existing or proposed school.
4. 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, create a significant hazard to the public or the environment.
5. Be located within an airport land use plan or, where such a plan has not been adopted, within 2 miles of a public airport or public use airport that results in a safety hazard or excessive noise for people residing or working in the project area.
6. Impair implementation of, or physically interfere with, an adopted emergency response plan or emergency evacuation plan.
7. Expose people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires.
8. In combination with past, present, and reasonably foreseeable projects, result in cumulative impacts with respect to hazards and hazardous materials.

5.9.3 PROPOSED GENERAL PLAN POLICIES

The following are relevant policies of the Butte County General Plan Update, which may contribute to the reduction of hazards as a result of implementation of the proposed project.

Health and Safety Element

- HS-P11.5: New development projects shall meet current County building and fire requirements and California Fire Safe Regulations.
- HS-P11.6: New development projects in High or Very High Fire Hazard Severity Zones or the Wildland-Urban Interface, as shown in Figure HS-11 or the most current data available from CAL FIRE, shall prepare a Fire Protection Plan for adequate emergency water flow, emergency vehicle

access, visible addressing and signage, evacuation routes, fuel management, defensible space, fire safe building construction, and wildfire preparedness.

- HS-P12.1: Regulations regarding fire-safe vegetation clearance and maintenance around structures, including non-conforming development, and infrastructure, including along driveways and private roads, shall be maintained and enforced.
- HS-P12.2: Fuel breaks shall be required along the edge of developed areas, including non-conforming development, in Local Responsibility and State Responsibility Areas, as well as the Wildland-Urban Interface, as shown in Figure HS-11 and HS-12 or the most current data available from CAL FIRE.
- HS-P12.3: Fire-resistant native landscaping and fuel breaks shall be required in residential areas.
- HS-P12.4: Coordinate with park districts and other agencies to maintain mapping of refuge areas, expanding the capacity in the county to ensure residents and visitors have a safe meeting location during a wildfire event.
- HS-P12.5: New development, significant retrofits, and reconstruction projects in Local Responsibility and State Responsibility Areas, and the Wildland-Urban Interface, shall be consistent with the California Building Standards Code, California Fire Code, and California Fire Safe Regulation requirements.
- HS-P12.6: All development projects in High or Very High Fire Hazard Severity Zones shall provide adequate water conveyance infrastructure to meet daily and fire-flow requirements.
- HS-P12.7: Ensure that new development has adequate fire protection services, including adequate water supplies for fire suppression.
- HS-P13.1: New development in High or Very High Fire Hazard Severity Zones and the Wildland-Urban Interface, as shown in Figure HS-11 or the most current data available from CAL FIRE, shall identify at least two points of access for day-to-day access and evacuation purposes and make improvements to develop, upgrade, and maintain these routes to ensure adequate capacity of evacuation routes. (See Goal HS-18 for additional evacuation policies)
- HS-P14.2: The County shall plan for recovery from a large-scale wildfire disaster, focusing on temporary housing needs, emergency workers, and emergency response personnel.
- HS-P14.3: The County shall coordinate internally and with other local, regional, or state agencies to develop contingency plans for meeting intermediate and temporary housing needs of those displaced during catastrophic wildfire events until permanent housing is reconstructed.
- HS-P14.4: The County shall promote Master Plan development for communities rebuilding after an incident to reduce permit fees and construction costs.
- HS-P14.5: The County shall require redevelopment after wildfires to meet current California Building Standards Code, California Fire Code, and California Fire Safe Regulations to reduce future vulnerabilities to fire hazards through site preparation, layout design, fire-resistant landscaping, and fire-retarding building design and materials.

- HS-P15.2: Hazardous materials carrier routes shall be designated to direct hazardous materials transport away from populated areas.
- HS-P15.3: Hazardous and toxic materials shall be transported only along the designated highway and rail routes shown in Figure HS-14.
- HS-P15.4: Proponents of new hazardous waste management facilities shall demonstrate that potential environmental impacts can be mitigated as a condition of approval.

Environmental Justice Element

- EJ-P9.1: The County shall encourage residential development in areas of Communities of Opportunity that are served by public water and sewer systems or areas with soil and groundwater conditions that can safely support development without exposing residents to contaminants.
- EJ-P9.2: The County shall assist regulatory agencies in their efforts to monitor pollutant levels, establish thresholds, and identify funding and mitigation options, particularly for pollutants that are found in Communities of Opportunity.
- EJ-P9.3: The County shall advocate for and coordinate with local and regional agencies in efforts to remediate or treat contaminated surface water, groundwater, or soils in or affecting Communities of Opportunity.

5.9.4 IMPACT DISCUSSION

HAZ-1	Implementation of the proposed project would not create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials.

General Plan 2040

The implementation of the General Plan Update would include land uses that would require the routine use, transport, and disposal of hazardous material and waste within Butte County. Hazardous materials are used in all land use designations for manufacturing, agriculture, and household chores, among other activities. Implementation of the General Plan Update would result in an intensification of land use and a corresponding increase in the amount of hazardous materials stored, transported, and disposed of in unincorporated Butte County. The Industrial land designation is the most likely to use the largest quantities of hazardous materials.

However, the proposed General Plan contains policies that address the routine use, transportation, and disposal of hazardous materials. Health and Safety Element Policy HS-P15.4 requires proponents of new hazardous waste management facilities to demonstrate that potential environmental impacts can be mitigated as a condition of approval. Furthermore, Policy HS-P15.2 requires that hazardous materials carrier routes direct hazardous materials transport away from populated areas, and Policy HS-P15.3 limits the transport of hazardous and toxic materials to designated highway and rail routes. In addition, federal and State agencies also regulate the routine transport, use, and disposal of hazardous materials.

The routine use, transportation, and disposal of hazardous material and waste within and through the county is an unavoidable aspect of modern society. However, the risk of death, injury, and/or property loss is lessened through State and local regulations and policies. The implementation of the proposed General Plan policies, in conjunction with federal and State regulations, would reduce the impact of routine use, transport, and disposal of hazardous materials to a less-than-significant level.

Level of Significance Before Mitigation: HAZ-1 would be less than significant.

Mitigation Measures

No mitigation measures are required.

Upper Ridge Community Plan

As discussed in Chapter 3, *Project Description*, of this Draft EIR, the Upper Ridge Community Plan would increase development potential in the Upper Ridge community with 28 parcels redesignated from Retail and Office to Mixed-Use land uses in the Old Magalia and Magalia Center neighborhoods. The land uses in these neighborhoods accommodated under the General Plan Update could involve the routine use, transport, and disposal of hazardous material and waste within Butte County. Hazardous materials are used in all land use designations for manufacturing, agriculture, and household chores, among other activities. However, the 2040 General Plan Update includes policies that also apply to the Upper Ridge Community Plan that address the routine use, transportation, and disposal of hazardous materials. The implementation of the proposed General Plan policies, in conjunction with federal and State regulations, would reduce the impact of routine use, transport, and disposal of hazardous materials to a less-than-significant level.

Level of Significance Before Mitigation: HAZ-1 would be less than significant.

Mitigation Measures

No mitigation measures are required.

HAZ-2	The project would not 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.

General Plan 2040

Implementation of the General Plan Update would result in an intensification of land uses that would require the use, transportation, and storage of hazardous materials in unincorporated Butte County. Personal injury, property damage, environmental degradation, or death could result from the release of hazardous materials caused by upset or accident conditions.

However, the General Plan Update includes policies that address upset and accident conditions potentially involving the release of hazardous materials into the environment. The Health and Safety Element Policy HS-P15.4 addresses the potential impacts associated with new hazardous waste management facilities, and Policies HS-P15.2 and HS-P15.3 address the transport of hazardous materials. Furthermore, Policy HS-P15.1 supports the Hazardous Materials Emergency Response Plan (Area Plan), which contains processes and strategies for responding to emergencies involving hazardous materials in the county.

Although the risk of upset and accident conditions involving the release of hazardous materials into the environment cannot be completely eliminated, it can be reduced to a manageable level. The Butte County Public Health Department, Environmental Health Division serves as the Certified Unified Program Agency (CUPA) for Butte County, and is responsible for the Hazardous Materials Release Response Plans and Inventories (Business Plans); the Hazardous Waste Generator and On-site Hazardous Waste Treatment (tiered permitting) Programs; the Underground Storage Tank Program; the California Accidental Release Prevention Program; and the Aboveground Petroleum Storage Act: Spill Prevention, Control, and Countermeasure (SPCC) Plans. Businesses using hazardous materials in Butte County would be required to register with these programs and comply with their guidelines. Proper implementation of these CUPA programs, in conjunction with other State and federal regulations and the General Plan Update policies discussed above, would reduce the impact of reasonably foreseeable accidents and/or upset conditions involving the release of hazardous materials to a less-than-significant level.

Level of Significance Before Mitigation: HAZ-2 would be less than significant.

Mitigation Measures

No mitigation measures are required.

Upper Ridge Community Plan

As discussed in Chapter 3, *Project Description*, of this Draft EIR, the Upper Ridge Community Plan would increase development potential in the Upper Ridge community with 28 parcels redesignated from Retail and Office to Mixed-Use land uses in the Old Magalia and Magalia Center neighborhoods. The land uses in these neighborhoods accommodated under the General Plan Update could involve the routine use, transport, and disposal of hazardous material and waste within Butte County. Personal injury, property damage, environmental degradation, or death could result from the release of hazardous materials caused by upset or accident conditions. However, the General Plan Update includes policies that address upset and accident conditions potentially involving the release of hazardous materials into the environment. Proper implementation of these CUPA programs, in conjunction with other State and federal regulations and the General Plan Update policies discussed above, would reduce the impact of reasonably foreseeable accidents and/or upset conditions involving the release of hazardous materials to a less-than-significant level.

Level of Significance Before Mitigation: HAZ-2 would be less than significant.

Mitigation Measures

No mitigation measures are required.

HAZ-3	The project would not emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within 0.25 miles of an existing or proposed school.

General Plan 2040

Implementation of the General Plan Update would allow land uses that could be reasonably expected to handle hazardous materials or generate hazardous emissions. It is possible that such uses could occur near existing or proposed schools. However, exposure to hazardous materials would be limited as all users of hazardous materials are subject to federal, State, and local laws that ensure that hazardous material use, emission and transportation are controlled to a safe level. The combination of federal, State, and local regulations described in previous sections, and Health and Safety Element policies that call for reducing risks from the harmful effects of hazardous materials, would ensure that the risk to schools of hazardous materials or emissions would be less than significant.

Level of Significance Before Mitigation: HAZ-3 would be less than significant.

Mitigation Measures

No mitigation measures are required.

Upper Ridge Community Plan

As discussed in Chapter 3, *Project Description*, of this Draft EIR, the Upper Ridge Community Plan would increase development potential in the Upper Ridge community with 28 parcels redesignated from Retail and Office to Mixed-Use land uses in the Old Magalia and Magalia Center neighborhoods. Although there are no existing schools within 0.25 miles of these neighborhoods, it is possible that such uses could occur near future proposed schools. However, exposure to hazardous materials would be limited as all users of hazardous materials are subject to federal, State, and local laws that ensure that hazardous material use, emission, and transportation are controlled to a safe level. The combination of federal, State, and local regulations described in previous sections, and Health and Safety Element policies that call for reducing risks from the harmful effects of hazardous materials, would ensure that the risk to schools from hazardous materials or emissions would be less than significant.

Level of Significance Before Mitigation: HAZ-3 would be less than significant.

Mitigation Measures

No mitigation measures are required.

HAZ-4	Implementation of the proposed project would not create a significant hazard to the public or the environment by being located on a site that is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5.

General Plan 2040

There are a number of sites in Butte County that are included on a list of hazardous material sites compiled pursuant to Government Code Section 65962.5. These sites have a history of contamination with hazardous materials and are subject to various State and federal laws and regulators, including the CERCLA, US EPA, DTSC, and RWQCB.

Development allowed by the General Plan Update could create a hazard to the public or the environment if the development occurs on contaminated sites. All of the sites on which the DTSC has placed land use restrictions are within the incorporated municipalities. Although all unincorporated area sites in the DTSC database of hazardous materials sites do not have land use restrictions, future development could expose the public or the environment to hazards from site contaminants.

However, the General Plan Update contains policies designed to lessen the impact of hazardous materials contaminated sites. In particular, Health and Safety Policy HS-P15.5 requires an environmental investigation prior to General Plan Amendment or Rezone approval that would allow uses with sensitive receptors, such as residential developments, schools, or care facilities, on sites previously used for commercial, industrial, agricultural, or mining uses to determine whether soils, groundwater, and existing structures are contaminated and require remediation. The proposed General Plan Update, in combination with State and federal regulations, would reduce the hazard to the public and the environment to a less-than-significant level.

Level of Significance Before Mitigation: HAZ-4 would be less than significant.

Mitigation Measures

No mitigation measures are required.

Upper Ridge Community Plan

As discussed in Chapter 3, *Project Description*, of this Draft EIR, the Upper Ridge Community Plan would increase development potential in the Upper Ridge community with 28 parcels redesignated from Retail and Office to Mixed-Use land uses in the Old Magalia and Magalia Center neighborhoods. According to the DTSC database of hazardous materials sites, there are no contaminated sites in these neighborhoods. However, future development allowed by the General Plan Update could create a hazard to the public or the environment if development were to occur on future hazardous materials sites. Regardless, the General Plan Update contains policies designed to lessen the impact of hazardous materials contaminated sites. These policies, in combination with State and federal regulations, would reduce the hazard to the public and the environment to a less-than-significant level.

Level of Significance Before Mitigation: HAZ-4 would be less than significant.

Mitigation Measures

No mitigation measures are required.

HAZ-5	The project would not be located within an airport land use plan or, where such a plan has not been adopted, within 2 miles of a public airport or public use airport, resulting in a safety hazard or excessive noise for people residing or working in the project area.

General Plan 2040

The Butte County Airport Land Use Commission has adopted the ALUCP, which establishes land use restrictions for the areas around the four principal airports in Butte County. The General Plan Update conflicts with the ALUCP's Airport Land Use Compatibility Zones in various locations around all four airports. However, with the exception of two conflict areas discussed here, the ALUCP and General Plan Update both allow a similar type of residential development within these conflict areas; the conflicts are only related to the density of development allowed. These impacts from inconsistency with the ALUCP are land use impacts, and they do not relate to the safety of people residing or working in the areas around the airports.

There are two locations where the General Plan Update land use map designates an area for residential use and where the ALUCP prohibits residential use. At the Paradise Skypark Airport, the Rural Residential General Plan designation extends into the A Compatibility Zone, which prohibits residential uses. However, as shown in Figure 5.9-1, *Paradise Skypark Land Use Compatibility*, only a portion of each of the parcels with this designation is within the A Compatibility Zone, so any residential development on the parcels would be required to be constructed outside of the A Compatibility Zone area. In addition, at the Ranchaero Airport, the Medium Density Residential General Plan designation extends into the A Compatibility Zone. However, as shown in Figure 5.9-2*, Ranchaero Airport Land Use Compatibility,* only a portion of each of the parcels with this designation is within the A Compatibility Zone, so any residential development on the parcels would be required to be constructed outside of the A Compatibility Zone area. In addition, all of the parcels that extend into the A Compatibility Zone near the Ranchaero Airport area are currently developed with residential uses. Therefore, no additional residential development would occur inside of Airport Compatibility Zones, so no safety impacts would occur.

Level of Significance Before Mitigation: HAZ-5 would have no impact.

Mitigation Measures

No mitigation measures are required.

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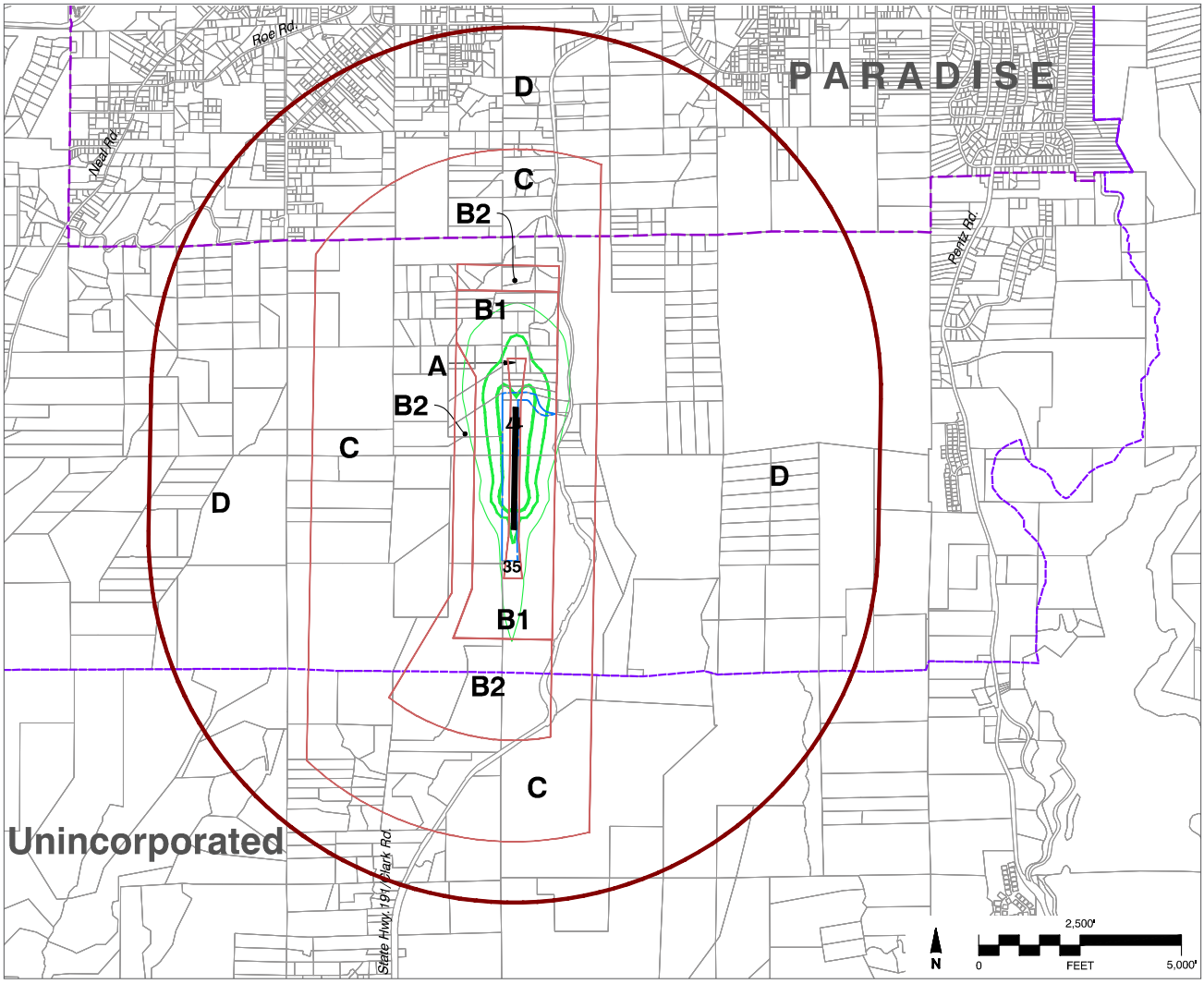


Source: Butte County Airport Land Use Commission, Paradise Skypark Airport Land Use Compatibility Plan, 2017.

Legend

Boundary Lines

- Existing Runway 17-35 (3,017' x 60')
- Airport Property Line
- City Limits
- City Sphere of Influence
- Compatibility Zones
- Airport Influence Area

Noise Factors[1]

- 55 dB CNEL
- 60 dB CNEL
- 65 dB CNEL

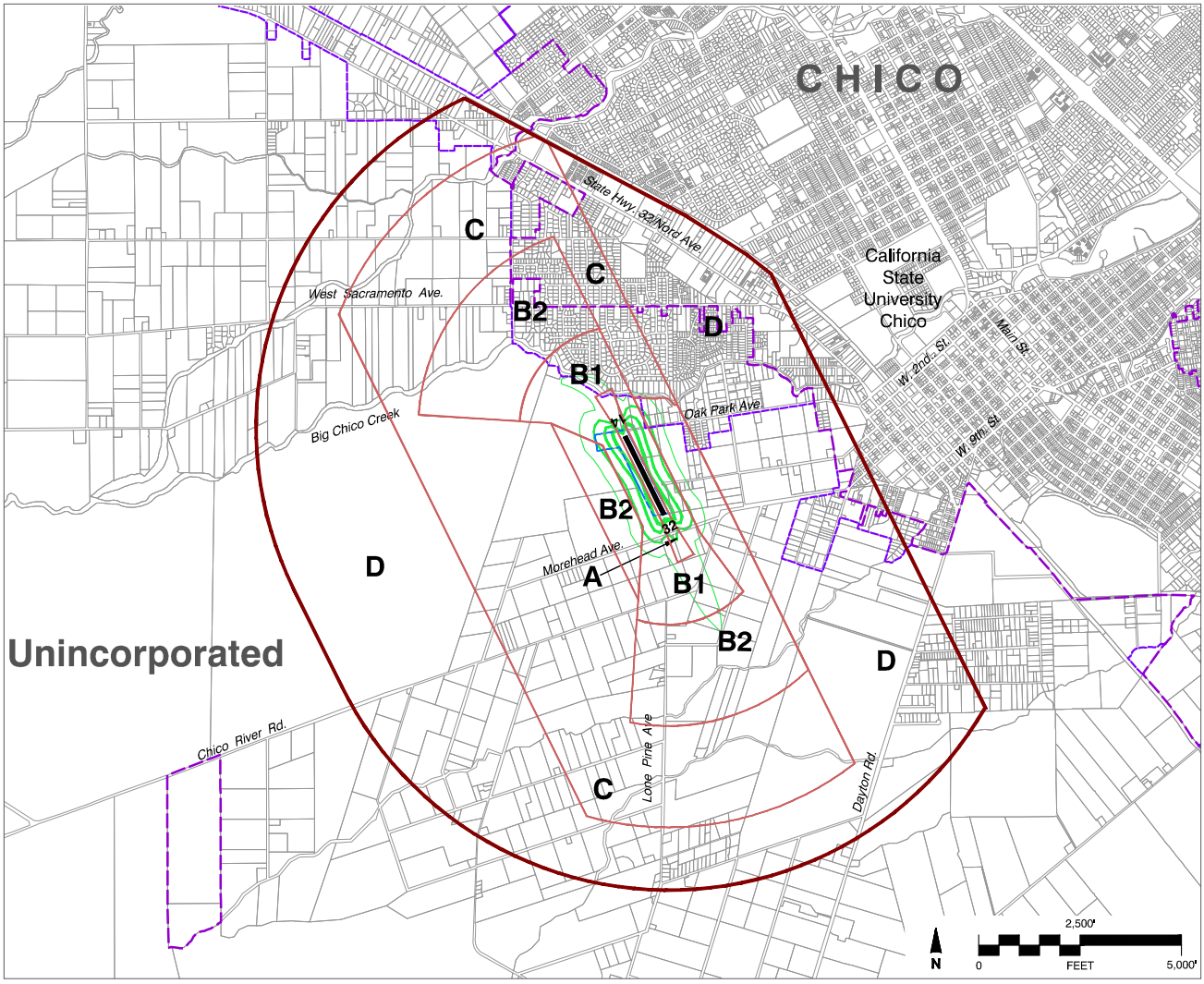
30,000 Future Annual Operations

Notes:

1. Noise Contour Source: Butte County Airport Land Use Compatibility Plan (2000); for compatibility planning purposes, the ALUCP forecast is brought forward to cover the requisite 20-year timeframe.

Figure 5.9-1

Paradise Skypark Land Use Compatibility



Source: Butte County Airport Land Use Commission, Ranchaero Airport Land Use Compatibility Plan, 2017.

Legend

Boundary Lines

- Existing Runway 14-32 (2,156' X 30')
- Airport Property Line
- City Limits
- City Sphere of Influence
- Compatibility Zones
- Airport Influence Area

Noise Impacts[1]

- 55 dB CNEL
- 60 dB CNEL
- 65 dB CNEL

10,000 Future Annual Operations

Notes:

1. Noise Contour Source: Butte County Airport Land Use Compatibility Plan (2000); for compatibility planning purposes, the ALUCP forecast is brought forward to cover the requisite 20-year timeframe.

Figure 5.9-2
Ranchaero Airport Land Use Compatibility

Upper Ridge Community Plan

As discussed in Chapter 3, *Project Description*, of this Draft EIR, the Upper Ridge Community Plan would increase development potential in the Upper Ridge community with 28 parcels redesignated from Retail and Office to Mixed-Use land uses in the Old Magalia and Magalia Center neighborhoods. These neighborhoods are not within a land use airport plan. Therefore, no impacts would occur.

Level of Significance Before Mitigation: HAZ-5 would have no impact.

Mitigation Measures

No mitigation measures are required.

HAZ-6	Implementation of the proposed project could impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.

General Plan 2040

The General Plan Update would allow new development and population growth, resulting in an increase in demand for emergency services during disasters, which could affect the implementation of emergency response and evacuation plans.

An impact to emergency operations and evacuation under the proposed General Plan 2040 could occur from construction of potential future development projects if they were to result in temporary road closures, and therefore, potentially altering of evacuation routes. Potential future development in the county would also be required to comply with SRA Fire Safe Regulations, the California Building Code, the California Fire Code, and the Butte County Code or Ordinances, which have maximum requirements for lengths of single-access roads, minimum widths of roadways, and vegetation fuel management around roadways. However, development of the potential future projects could potentially interfere with Butte County's and other State or federal agencies' emergency response and evacuation plans through construction-related road closures. These would be limited to the duration of the construction period and direct impacts of construction would be evaluated during the project environmental review process or permit review process by Butte County Fire Department and/or CAL FIRE; however, a temporary impact could still occur on single-access roadways or evacuation-constrained areas where there is limited ingress and egress.

However, numerous policies in the General Plan Update address the County's emergency preparedness in the event of natural or human-made disasters. Health and Safety Element HS-16 and its associated policies and actions work to ensure that Butte County is prepared for emergency situations. Policy HS-16.1 directs the County to conduct continuous advance planning to anticipate potential threats and improve emergency response effectiveness. Policy HS-P16.4 requires that critical emergency response facilities, such as fire, police, emergency service facilities, and utilities be sited to minimize their exposure to flooding, seismic effects, fire, or explosion. In addition, Policies HS-P16.5 and HS-P16.6 address emergency evacuation by

keeping emergency access routes free of traffic impediments, and marking streets and developed properties to enable easy identification.

Additionally, Butte County is currently conducting a Community Emergency Evacuation Analysis, which will identify the capacity, safety, and feasibility of evacuation routes in compliance with Assembly Bill 747 and California Government Code Section 65302.15. This study is estimated to be completed in April 2023, which will be used to update the evacuation plan maps by the end of 2023. The proposed General Plan 2040 Health and Safety Element contains the following action for conducting this study in wildfire-prone areas to be consistent with the provisions in Assembly Bill 747.

- Action HS-A13.2: Conduct a study on the capacity, feasibility, and safety of evacuation routes for areas in High and Very High Fire Hazard Severity Zones, as well as the Wildland-Urban Interface. Once the routes are evaluated through the study, seek funding to implement the necessary improvements to the routes.

All future development, regardless of whether it includes new development or redevelopment, is required to comply with adopted local, regional, and State plans and regulations addressing emergency access, response, and evacuation. However, even with these requirements, construction of new development or redevelopment could cause a temporary impairment of an evacuation route due to road closure; therefore, impacts would be significant.

Level of Significance Before Mitigation: HAZ-6 would be potentially significant.

Impact HAZ-6a: Construction of future potential development under implementation of the General Plan 2040 could result in temporary road closures that impair evacuation routes.

Mitigation Measures

Mitigation Measure HAZ-1: Project applicants for development in the Upper Ridge Community Plan area shall prepare a Traffic Control Plan to ensure that construction equipment or activities do not block roadways during the construction period. The Traffic Control Plan shall be submitted to the Butte County Fire Department and Sheriff's Office for review and approval prior to approval of building permits.

Level of Significance After Mitigation: HAZ-6 would be less than significant. Mitigation Measure HAZ-1 would ensure that roadways remain open during construction activities and evacuations could still occur in areas with evacuation constraints or single-access roadways.

Upper Ridge Community Plan

As discussed in Chapter 3, *Project Description*, of this Draft EIR, the Upper Ridge Community Plan would increase development potential in the Upper Ridge community with 28 parcels redesignated from Retail and Office to Mixed-Use land uses in the Old Magalia and Magalia Center neighborhoods. Potential future development under the proposed project would add additional residents to the Upper Ridge Community and result in slightly more cars on the road during an evacuation event. However, the Upper Ridge Community Plan includes strategies to increase access to and from the Upper Ridge, ultimately improving

evacuation capacity and staying consistent with the Evacuations Plans and Maps. The Upper Ridge Community Plan includes seven different methods for improving evacuation from the community:

- Widen Skyway where it crosses Magalia Dam.
- Pave the route north of Lake De Sabla connecting to SR-32 via Doe Mill Road and Garland Road.
- Provide a bypass of the Magalia Reservoir Dam by improving Coutolenc Road and Hupp Coutolenc Road around Paradise Lake.
- Improve Centerville Road leading southwest from Nimshew Road to Honey Run Road into Chico.
- Extend Athens Way down to Skyway in the Town of Paradise, crossing over Little Butte Creek in the process.
- Improve existing Ponderosa Way to allow vehicles connecting from Paradise Pines to Nimshew Road.
- Expanding some dead-end roads in neighborhoods such as Fir Haven to allow emergency ingress and egress routes.

These recommended improvements would reduce the number of cars travelling south over the Magalia Dam on Skyway, therefore reducing the potential for a bottleneck at the Magalia Dam during an evacuation. Additionally, the Upper Ridge Community Plan provides three strategies for implementing these improvements and making evacuation routes known to community residents:

- Strategy CIR-1.1: Form an Evacuation Taskforce that could weigh the constraints and benefits of the five potential additional evacuation routes described above, and prioritize one or two proposed routes to be improved in the near term.
- Strategy CIR-1.2: Prioritize near-term roadway improvements on existing evacuation routes to improve their emergency function (e.g., widening, adding passing zones on narrow routes, and adding pull-outs). These roadways include, but are not limited to:
    - Add new roadway connections, where feasible and beneficial, to convert dead-end roads to continuous routes, providing improved access for both every day and emergency functions.
    - Work with property owners to investigate establishing certain private roads as publicly accessible evacuation routes to provide connections to primary evacuation routes.
- Strategy CIR-1.3: Develop a comprehensive, well-signed evacuation network with an updated evacuation map that shows evacuation routes on public roadways as well as accessible private roadways.

These recommendations would be consistent with the current Evacuation Plans and Maps and would not impair the implementation of this plan for the Upper Ridge community.

The Butte County Emergency Operations Plan, Population Protection Annex, provides procedures for planning for and implementing evacuations. The Upper Ridge Community Plan includes several disaster response strategies to prepare for and facilitate evacuations caused by wildfires, including:

- **Strategy HS-2.1:** Develop a comprehensive emergency communications program and procedures for emergency events (e.g., fire, flood) and evacuation notifications to ensure residents and businesses on the Upper Ridge can respond adequately to hazardous events.
- **Strategy HS-2.3:** Develop an emergency preparedness education program for residents and visitors on the Upper Ridge to help them prepare for and respond to evacuations, Public Safety Power Shutoffs, and other hazardous events.
- **Strategy HS-2.4:** Upgrade existing assembly points to refuge areas and designate new refuge areas to create a set of equitably located areas that provide area space for residents and visitors to shelter when evacuation is not safe or possible during a hazardous event.

Implementation of these strategies would increase the effectiveness of the Emergency Operations Plan, Population Protection Annex, and allow residents and visitors to find refuges-of-last-resort if unable to evacuate as stated in the Emergency Operations Plan, and therefore would not impair or conflict with the plan.

An impact to emergency operations and evacuation under the proposed Upper Ridge Community Plan could occur from construction of potential future development projects if they were to results in temporary road closures along Lakeridge Circle or Old Skyway, and therefore, potentially altering of evacuation routes. Lakeridge Circle has multiple access points; however, Old Skyway is a two-lane roadway and is the only evacuation route for the Old Magalia neighborhood. Potential future development of these sites would also be required to comply with SRA Fire Safe Regulations, the California Building Code, the California Fire Code, and the Butte County Code or Ordinances, which have requirements for access roads and vegetation fuel management around roadways. However, development on Old Skyway could temporarily interfere with emergency response and evacuation plans through construction-related road closures. These would be limited to the duration of the construction period and direct impacts of construction would be evaluated during the project environmental review process or permit review process by Butte County Fire Department and/or CAL FIRE; however, a temporary impact could still occur on single-access roadways or evacuation-constrained areas where there is limited ingress and egress. Therefore, impacts would be significant.

Level of Significance Before Mitigation: HAZ-6 would be potentially significant.

Impact HAZ-6b: Construction of future potential development under implementation of the Upper Ridge Community Plan could result in temporary road closures that impair evacuation routes on the Upper Ridge.

Mitigation Measures

Implement Mitigation Measure HAZ-1.

Level of Significance After Mitigation: HAZ-6 would be less than significant. Mitigation Measure HAZ-1 would ensure that roadways on the Upper Ridge remain open during construction activities and evacuations could still occur in areas with evacuation constraints or single-access roadways.

HAZ-7	The project would not expose people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires.

General Plan 2040

Much of Butte County faces threats from wildland fires. The General Plan Update would allow new development, particularly in the foothill and mountain areas of the county where there are high fire risks that could expose new populations to loss, injury, or death due to wildfires. Although the majority of the land within the High and Very High Fire Hazard Severity Zones is designated for Timber Mountain and Agriculture, Foothill Residential and Rural Residential land uses are also allowed in these areas. The development of single-family homes on existing vacant parcels would not be subject to additional discretionary review or associated environmental review prior to the issuance of a building permit.

As shown in Figure 5.18-1, *Fire Hazard Severity Zones and Wildland-Urban Interface in Butte County,* in Section 5.18, *Wildfire*, under the proposed General Plan Update, approximately 2,750 acres in areas classified by the State as High Fire Hazard Severity Zones would allow development; these areas are mainly around Cohasset, Forest Ranch, Paradise, Berry Creek, and Palermo. In addition, there would be approximately 2,100 acres in lands that are classified as Very High Fire Hazard Severity Zones that would allow development; these areas are mainly around Cohasset, Forest Ranch, Paradise, and Berry Creek. Development in these areas could expose new populations to loss, injury, or death due to wildfires.

However, the General Plan Update includes a number of goals, policies, and actions that would reduce wildfire impacts. Health and Safety Element Goal HS-11 and its associated policies and actions seek to reduce risks from wildland and urban fire. Specifically, Policy HS-P11.1 requires that the County consider fire hazards in all land use and zoning decisions, environmental review, subdivisions review, and the provision of public services. Since all structures, even those without discretionary review, are subject to the provisions of the Zoning Ordinance, this policy will reduce the risk for new development on existing vacant parcels.

In addition, Policy HS-P11.5 requires that new development meet current fire safe ordinance standards for adequate emergency water flow, emergency vehicle access, signage, evacuation routes, fuel management, defensible space, fire safe building construction, and wildfire preparedness, which would help to reduce the wildfire impacts on new development. Furthermore, Action HS-A11.1 directs the County to complete roadside fuel reduction projects to reduce wildfire risk, increase visibility, and maintain safe evacuation routes, which would help to reduce wildfire hazards.

In addition, Health and Safety Goal HS-12 and its associated policies and actions seek to protect people and property from wildland and urban fires. Specifically, Policy HS-P12.1 maintains regulations regarding vegetation clearance around structures, and Policy HS-P12.3 requires the use of fire resistant landscaping and fuel breaks in residential areas. In addition, Policy HS-P12.2 requires fuel breaks along the edge of developing areas in High and Very High Fire Hazard Severity Zones, and Policy HS-P12.5 requires new development with wildfire-prone areas to meet California Building Standards Code, California Fire Code, and California Fire Safe Standards.

Finally, Health and Safety Element Goal HS-13 and its associated policy and actions seek to identify safe and effective evacuation routes and access for fire prevention and suppression. Policy HS-P13.1 requires that new development in High or Very High Fire Hazard Severity Zones identify access and egress routes and make improvements or contribute to a fund to develop, upgrade, and maintain these routes. Action HS-A13.1 directs the County to delineate and publish alternative evacuation routes for communities in foothill and mountain areas with high fire potential. In addition, Action HS-A13.2 directs the County to seek funding to conduct a study to identify evacuation routes for areas in High and Very High Fire Hazard Severity Zones, and then to seek funding to implement the necessary improvements to the routes.

In addition to the proposed goals, policies, and actions in the General Plan Update, other State and local policies and regulations would mitigate wildfire risk impacts, such as the State Fire Safety Regulations. The County's Wildfire Mitigation Action Plan will help to reduce damage and prevent injury from wildfire through wildfire mitigations, including a fuel reduction program, a weed abatement program, construction codes requiring the use of fire-resistant building materials in new construction, and improvements to the water supply and hydrant system. Additionally, the Butte County Community Wildfire Protection Plan will mitigate impacts associated with wildfire in developed areas through evaluation and assessment of proposed structures, implementation of mitigation measures associated with construction, and education programs for private landowners and public agencies.

Development allowed by the General Plan Update would also be in compliance with safety regulations set forth by Chapters 20 and 38A of the Butte County Code. Specifically, Chapter 20 lists standards for efficient emergency evacuation plans that are required in subdivisions, parcel maps, and site improvement projects. Chapter 38A would help to mitigate the impact by requiring occupants and property owners to maintain property in such a way that reduces the risk of fire and supplementing other fire prevention and protection regulations that pertain to the county.

Together, the proposed goals, policies, and actions of the General Plan Update and the other local policies and regulations discussed herein would reduce wildfire impacts to a less-than-significant level.

Level of Significance Before Mitigation: HAZ-7 would be less than significant.

Mitigation Measures

No mitigation measures are required.

Upper Ridge Community Plan

As discussed in Chapter 3, *Project Description*, of this Draft EIR, the Upper Ridge Community Plan would increase development potential in the Upper Ridge community with 28 parcels redesignated from Retail and Office to Mixed-Use land uses in the Old Magalia and Magalia Center neighborhoods. These neighborhoods are within a Very High Fire Hazard Severity Zone. However, the General Plan Update includes a number of goals, policies, and actions that would reduce wildfire impacts. In addition to the proposed goals, policies, and actions in the General Plan Update, other State and local policies and regulations would mitigate wildfire risk impacts, such as the State Fire Safety Regulations. The County's Wildfire Mitigation Action Plan will help to reduce damage and prevent injury from wildfire through wildfire mitigations,

including a fuel reduction program, a weed abatement program, construction codes requiring the use of fire-resistant building materials in new construction, and improvements to the water supply and hydrant system. Additionally, the Butte County Community Wildfire Protection Plan will mitigate impacts associated with wildfire in developed areas through evaluation and assessment of proposed structures, implementation of mitigation measures associated with construction, and education programs for private landowners and public agencies. Together, the proposed goals, policies, and actions of the General Plan Update and the other local policies and regulations discussed herein would reduce wildfire impacts to a less-than-significant level.

Level of Significance Before Mitigation: HAZ-7 would be less than significant.

Mitigation Measures

No mitigation measures are required.

HAZ-8	The proposed project, in combination with past, present, and reasonably foreseeable projects, would not result in less-than-significant cumulative impacts with respect to hazards and hazardous materials.

General Plan 2040

As discussed previously, the increase in Butte County's local population under the proposed General Plan would result in the increased use of and potential exposure to hazardous household, commercial, and industrial materials. There would also be an increase in the population that would be exposed to potential hazards associated with aircraft operation and wildland fires. In addition, the increase in population could lead to an increase in demand for emergency services during disasters. However, most potential project-level impacts associated with hazards and hazardous materials would be reduced to a less-than-significant level due to local, regional, State, and federal regulations, such as those that control the production, use, and transportation of hazardous materials and waste and address development in areas at risk of wildfire. Since impacts associated with hazardous materials, airport hazards, and fire hazards are, by their nature, focused on specific sites or areas, the less-than-significant impacts within unincorporated Butte County would not contribute to a cumulative increase in hazards in the county or the larger region. The potential for cumulative impacts associated with safety and hazards would be less than significant.

Level of Significance Before Mitigation: HAZ-8 would be less than significant.

Mitigation Measures

No mitigation measures are required.

Upper Ridge Community Plan

As discussed in Chapter 3, *Project Description*, of this Draft EIR, the Upper Ridge Community Plan would increase development potential in the Upper Ridge community with 28 parcels redesignated from Retail and Office to Mixed-Use land uses in the Old Magalia and Magalia Center neighborhoods. Potential future

development under the proposed project would add additional residents to the Upper Ridge Community and result in the increased use of and potential exposure to hazardous household, commercial, and industrial materials. There would also be an increase in the population that would be exposed to potential hazards associated with wildland fires. In addition, the increase in population in these neighborhoods could lead to an increase in demand for emergency services during disasters.

However, most potential project-level impacts associated with hazards and hazardous materials would be reduced to a less-than-significant level due to local, regional, State, and federal regulations, such as those that control the production, use, and transportation of hazardous materials and waste and address development in areas at risk of wildfire. Since impacts associated with hazardous materials and fire hazards are, by their nature, focused on specific sites or areas, the less-than-significant impacts within these neighborhoods would not contribute to a cumulative increase in hazards in the county or the larger region. The potential for cumulative impacts associated with safety and hazards would be less than significant.

Level of Significance Before Mitigation: HAZ-8 would be less than significant.

Mitigation Measures

No mitigation measures are required.

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5.10 HYDROLOGY AND WATER QUALITY

This chapter describes the regulatory framework and existing conditions in the Plan Area related to hydrology and water quality, and the potential impacts of the project on hydrology and water quality.

5.10.1 ENVIRONMENTAL SETTING

5.10.1.1 REGULATORY FRAMEWORK

This section summarizes key federal, State, and local agencies, plans, programs, policies and regulations that address hydrology and water quality in Butte County.

Federal Regulations

Federal Emergency Management Agency

The Federal Emergency Management Agency (FEMA) administers the National Flood Insurance Program to provide subsidized flood insurance to communities that comply with FEMA regulations limiting development in floodplains. The National Flood Insurance Program aims to reduce the impact of flooding by providing affordable insurance to property owners and by encouraging communities to adopt and enforce floodplain management regulations. FEMA also issues Flood Insurance Rate Maps (FIRMs) that identify which land areas are subject to flooding. These maps provide flood information and identify flood hazard zones in the community. The design standard for flood protection is established by FEMA. FEMA's minimum level of flood protection for new development is the 100-year flood event, also described as a flood that has a 1 percent chance of occurring in any given year (FEMA 2021).

Flood Control Act

It was recognized that destructive floods upon rivers in the United States, upsetting orderly processes and causing loss of life and property, including erosion of lands and impairing and obstructing navigation, highways, is a nuisance to national welfare. As such, the Flood Control Act was first enacted in 1917, with the most recent Act being passed in 1965. The Flood Control Act was enacted to control irrigation because of floods or other natural disasters and is administered by the U.S. Army Corps of Engineers.

Flood Disaster Protection Act

The Flood Disaster Protection Act requires federal financial regulatory agencies to adopt regulations prohibiting their regulated lending institutions from making, increasing, extending, or renewing a loan secured by improved real estate or a mobile home located or to be located in a Special Flood Hazard Area (SFHA) in a community participating in the National Flood Insurance Program (NFIP) unless the property securing the loan is covered by flood insurance. The objectives of the Flood Disaster Protection Act are:

- Provide flood insurance to owners of improved real estate located in SFHAs of communities participating in the NFIP.

- Require communities to enact measures designed to reduce or avoid future flood losses as a condition for making federally subsidized flood insurance available.
- Require federal financial regulatory agencies to adopt regulations prohibiting their regulated lending institutions from making, increasing, extending, or renewing a loan secured by improved real estate or a mobile home located or to be located in an SFHA of a community participating in the NFIP, unless the property securing the loan is covered by flood insurance.
- Require federal agencies, such as the Federal Housing Administration, Small Business Administration, and Department of Veterans Affairs not to subsidize, insure, or guarantee any loan if the property securing the loan is in an SFHA of a community not participating in the NFIP.

Clean Water Act

The US Environmental Protection Agency (EPA) is the lead federal agency responsible for water quality management. The Clean Water Act (CWA) of 1972 is the primary federal law that governs and authorizes water quality control activities by the EPA as well as individual states. Various elements of the CWA address water quality, and they are discussed below. Wetland protection elements administered by the US Army Corps of Engineers under Section 404 of the CWA, including permits to dredge or fill wetlands, are discussed in Chapter 4.4, Biological Resources, of this EIR.

Under Section 401 of the CWA, an applicant for a Section 404 permit to discharge dredged or fill material into waters of the United States must first obtain a certificate from the appropriate State agency stating that the fill is consistent with the State's water quality standards and criteria. In California, the authority to either grant water quality certification or waive the requirement is delegated by the State Water Resources Control Board (SWRCB) to the nine Regional Water Quality Control Boards (RWQCB). Butte County is within the Central Valley RWQCB (Region 5).

Under federal law, the EPA has published water quality regulations under Volume 40 of the Code of Federal Regulations (40 CFR). Section 303 of the CWA requires states to adopt water quality standards for all surface waters of the United States. As defined by the CWA, water quality standards consist of two elements: (1) designated beneficial uses of the water body in question and (2) criteria that protect the designated uses. Section 304(a) requires the EPA to publish advisory water quality criteria that accurately reflect the latest scientific knowledge on the kind and extent of all effects on health and welfare that may be expected from the presence of pollutants in water. Where multiple uses exist, water quality standards must protect the most sensitive use. In California, the EPA has designated the SWRCB and its RWQCBs with authority to identify beneficial uses and adopt applicable water quality objectives.

National Pollutant Discharge Elimination System

The National Pollutant Discharge Elimination System (NPDES) permit program was established by the CWA to regulate municipal and industrial discharges to surface waters of the United States. Federal NPDES permit regulations have been established for broad categories of discharges, including point-source municipal waste discharges and nonpoint-source stormwater runoff. NPDES permits generally identify effluent and receiving water limits on allowable concentrations and/or mass emissions of pollutants contained in the discharge; prohibitions on discharges not specifically allowed under the permit; and provisions that describe

required actions by the discharger, including industrial pretreatment, pollution prevention, self-monitoring and other activities.

National Wild and Scenic Rivers Act

The National Wild and Scenic Rivers Act was established in 1968 to maintain the natural beauty, biology and wildness of designated "wild," "scenic," or "recreational" rivers threatened by the construction of dams, diversions and canals. The Act seeks to preserve these designated rivers in their free-flowing condition and protect their immediate environments for the benefit and enjoyment of present and future generations (WSR 2021).

A 77.6-mile portion of the Middle Fork of the Feather River has federal Wild and Scenic River status. This river is within the boundaries of the Plumas National Forest. The wild and scenic designation covers 24,000 acres, generally within a ⅛- to ¼-mile band along the river, and extends from Beckworth in the Sierra Valley (Plumas County) to Lake Oroville. Approximately 10.5 miles of this wild and scenic river flow through Butte County. The river represents a unique free-flowing stream that is the only charter member of the National Wild and Scenic River System in California.

In addition, a 7-mile segment of the Fall River, entirely located in Butte County between Nelson's Crossing and Lake Oroville, is eligible for Wild and Scenic River status. This segment of the Fall River meets the Wild and Scenic criteria, and suitability for official designation will be made based on a future study to be conducted by the Plumas National Forest.

State Regulations

California Department of Water Resources Division of Safety of Dams

The California Department of Water Resources provides oversight to the design, construction, and maintenance of over 1,200 jurisdictional sized dams in California. The California Department of Water Resources ensures dam safety by:

- Reviewing and approving dam enlargements, repairs, alterations, and removals to ensure that the dam appurtenant structures are designed to meet minimum requirements.
- Performing independent analyses to understand dam and appurtenant structures performance. These analyses can include structural, hydrologic, hydraulic, and geotechnical evaluations.
- Overseeing construction to ensure work is being done in accordance with the approved plans and specifications.
- Inspecting each dam on an annual basis to ensure it is safe, performing as intended, and is not developing issues. Roughly 1/3 of these inspections include in-depth instrumentation reviews of the dam surveillance network data.
- Periodically reviewing the stability of dams and their major appurtenances in light of improved design approaches and requirements, as well as new findings regarding earthquake hazards and hydrologic estimates in California.

State Regulatory Agencies

In California, the SWRCB has broad authority over State water quality control. The SWRCB is responsible for developing statewide water quality policy and exercises the powers delegated to the State by the federal government under the CWA. Other State agencies with jurisdiction over water quality regulation in California include the California Department of Public Health for drinking water regulations, the California Department of Pesticide Regulation, the California Department of Fish and Wildlife (CDFW), and the Office of Environmental Health and Hazard Assessment.

Regional authority for planning, permitting, and enforcement is delegated to the nine RWQCBs. The regional boards are required to formulate and adopt water quality control plans for all areas in the region and establish water quality objectives in the plans. As noted above, Butte County is within the jurisdiction of the Central Valley RWQCB.

The RWQCBs also run the Irrigated Lands Regulatory Program, which regulates discharges from irrigated agricultural lands. Its purpose is to prevent agricultural discharges from impairing the waters that receive them. To protect these waters, RWQCBs have issued conditional waivers of waste discharge requirements to growers that contain conditions requiring water quality monitoring of receiving waters and corrective actions when impairments are found.

The California Department of Water Resources protects, conserves, develops, and manages much of California's water supply. This includes the State Water Project, the nation's largest state-built water conveyance program. The California Department of Water Resources' major responsibilities include:

- Overseeing the statewide process of developing and updating the California Water Plan.
- Planning, designing, constructing, operating, and maintaining the State Water Project.
- Protecting and restoring the Sacramento-San Joaquin Delta.
- Regulating dams, providing flood protection, and assisting in emergency management.
- Working to preserve the natural environment and wildlife.
- Educating the public about the importance of water, water conservation, and water safety.
- Providing grants and technical assistance to service local water needs.
- Collecting, analyzing, and reporting data in support of the Department of Water Resources' mission to manage and protect California's water resources.

The agencies with responsibility for flood protection in Butte County include the US Army Corps of Engineers, DWR, Central Valley Flood Protection Board, and Butte County Service Area 24. The Army Corps of Engineers is responsible for federal levees and canals such as the Mud Creek earthen levees, Little Chico-Butte Creek and Butte Creek earthen diversions, the Cherokee Canal, and the Feather River earthen levees. DWR is responsible for maintaining the channels on Chico and Mud Creeks and for operating and maintaining levee facilities on Butte Creek, Cherokee Canal, Big Chico Creek as it runs through Chico, Little Chico Creek Diversion to Butte Creek, and the Sacramento River. The Central Valley Flood Protection Board is a permitting agency for development or encroachments within the 200-year floodplain of the Sacramento

River. The Butte County Service Area 24 is responsible for the project levees on Chico Creek and Mud Creek and for the Sandy Gulch (Sycamore to Mud Creek) Flood Control Project.

Sustainable Groundwater Management Act

The historic passage of the Sustainable Groundwater Management Act in 2014 set forth a statewide framework to help protect groundwater resources over the long-term. The Sustainable Groundwater Management Act requires local agencies to form groundwater sustainability agencies for the high and medium priority basins. Groundwater sustainability agencies develop and implement groundwater sustainability plans to avoid undesirable results and mitigate overdraft within 20 years.

Porter-Cologne Water Quality Control Act

The Porter-Cologne Water Quality Control Act (Porter-Cologne Act) of 1969 is California's statutory authority for the protection of water quality. Under the Act, the State must adopt water quality policies, plans and objectives that protect the State's waters for the use and enjoyment of the people. The Act sets forth the obligations of the SWRCB and RWQCBs to adopt and periodically update water quality control plans (Basin Plans). Basin Plans are the regional water quality control plans required by both the CWA and Porter-Cologne Act in which beneficial uses, water quality objectives, and implementation programs are established for each of the nine regions in California. Butte County falls under the Basin Plan for the Sacramento River and San Joaquin River Basins.

The Act also requires waste dischargers to notify the RWQCBs of their activities through the filing of Reports of Waste Discharge (RWD) and authorizes the SWRCB and RWQCBs to issue and enforce waste discharge requirements (WDRs), NPDES permits, Section 401 water quality certifications, or other approvals (SWRCB 2021).

California Fish and Game Code

The CDFW protects streams, water bodies and riparian corridors through the streambed alteration agreement process under Section 1601 to 1606 of the California Fish and Game Code. The Fish and Game Code stipulates that it is "unlawful to substantially divert or obstruct the natural flow or substantially change the bed, channel or bank of any river, stream or lake" without notifying CDFW, incorporating necessary mitigation. and obtaining a streambed alteration agreement. CDFW's jurisdiction extends to the top of banks and often includes the outer edge of riparian vegetation canopy cover.

Flood Control Legislation

State regulations require protection from the 200-year flood event in specific areas as defined in Government Code Section 65007. According to recent legislation as part of Senate Bill (SB) 5 (Machado and Walk), SB 17 (Florez) and Assembly Bill (AB) 162 (Wolk), urban and urbanizing areas in the Sacramento Valley and San Joaquin Valley will be required to achieve, or make adequate progress toward achieving, 200-year protection by the year 2015 to continue to approve development in the floodplain. Specifically, AB 162 requires that each local jurisdiction's Safety Element include 200-year floodplain maps. Maps must be based on the best available data on flood protection, including areas protected by State and federal project levees,

and areas outside of these areas. Maps are being prepared by the California Department of Water Resources (DWR 2021a).

Local Regulations

Butte County General Plan 2030

The following policies are included in the existing General Plan, which was adopted in 2010, regarding hydrology and water quality. The numbering is from the existing General Plan and therefore may not be consecutive.

Land Use Element

- Goal LU-1 Continue to uphold and respect the planning principles on which the County's land use map is based.
    - LU-P1.6 The County shall conserve important habitat and watershed areas, while protecting the public safety of County residents.
    - LU-P1.10 The County shall limit development in foothill and mountain areas that are constrained by fire hazards, water supply, migratory deer habitat, or infrastructure.

Water Resources Element

- Goal W-1 Maintain and enhance water quality.
    - W-P1.1 County planning and programs shall be integrated with other watershed planning efforts, including best management practices, guidelines and policies of the Central Valley Regional Water Quality Control Board (CVRWQCB).
    - W-P1.2 The County shall cooperate with State and local agencies in efforts to identify and eliminate or minimize all sources of existing and potential point and non-point sources of pollution to ground and surface waters, including leaking fuel tanks, discharges from storm drains, auto dismantling, dump sites, sanitary waste systems, parking lots, roadways and logging and mining operations.
    - W-P1.3 Regulations that protect water quality from the impacts from agricultural activities shall be maintained.
    - W-P1.4 Where appropriate, new development shall be Low Impact Development (LID) that minimizes impervious area, minimizes runoff and pollution and incorporates best management practices.
    - W-P1.5 Pest-tolerant landscapes shall be encouraged to minimize the need for pesticides.
    - W-P1.6 Educational programs and outreach shall be continued to promote water quality protection and limit pollution from pesticides and nutrients in urban and domestic settings.

- W-P1.7 Agriculture, logging, mining, recreational vehicle use and other open space uses shall follow best management practices to minimize erosion and protect water resources.
- W-P1.8 The County supports conversion from septic systems to public sewer service, where feasible.
- W-P1.9 The County supports the establishment of a system for proper disposal of expired medications.

- Goal W-2 Ensure an abundant and sustainable water supply to support all uses in Butte County.
  - W-P2.1 The County supports solutions to ensure the sustainability of community water supplies.
  - W-P2.2 The County may continue the Four-County Memorandum of Understanding (MOU) with Colusa, Glenn, Tehama and Sutter Counties, and may support the development of the Northern Sacramento Valley Integrated Regional Water Management Plan.
  - W-P2.3 Water resources shall be planned and managed in a way that relies on sound science and public participation.
  - W-P2.4 The County's State Water Project allocation should be fully utilized within Butte County.
  - W-P2.5 The expansion of public water systems to areas identified for future development on the General Plan land use map is encouraged.
  - W-P2.6 The County supports water development projects that are needed to supply local demands.
  - W-P2.7 The Butte County Water Commission and the Department of Water and Resource Conservation shall continue to be utilized as important partners in the water resource planning process.
  - W-P2.8 The County supports Area of Origin water rights, the existing water right priority system and the authority to make water management decisions locally to meet the county's current and future needs, thereby protecting Butte County's communities, economy and environment.
  - W-P2.9 Applicants for new major development projects, as determined by the Department of Development Services, shall demonstrate adequate water supply to meet the needs of the project, including an evaluation of potential cumulative impacts to surrounding groundwater users and the environment.

- Goal W-3 Effectively manage groundwater resources to ensure a long-term water supply for Butte County.
  - W-P3.1 The County shall continue to ensure the sustainability of groundwater resources, including groundwater levels, groundwater quality and avoidance of land

subsidence, through a basin management objective program that relies on management at the local level, utilizes sound scientific data and assures compliance.

- W-P3.2 Groundwater transfers and substitution programs shall be regulated to protect the sustainability of the County's economy, communities and ecosystem, pursuant to Chapter 33 of the Butte County Code.
- W-P3.3 The County shall protect groundwater recharge and groundwater quality when considering new development projects.

- Goal W-4 Promote water conservation as an important part of a long-term and sustainable water supply.
  - W-P4.1 Agricultural and urban water use efficiency shall be promoted.
  - W-P4.2 Water conservation efforts of local Resource Conservation Districts, the Natural Resource Conservation Service and irrigation districts should be coordinated.
  - W-P4.3 The County shall work with municipal and industrial water purveyors to implement water conservation policies and measures.
  - W-P4.4 Opportunities to recover and utilize wastewater for beneficial purposes shall be promoted and encouraged.
  - W-P4.5 The use of reclaimed wastewater for non-potable uses shall be encouraged, as well as dual plumbing that allows graywater from showers, sinks and washers to be reused for landscape irrigation in new developments.
  - W-P4.6 New development projects shall adopt best management practices for water use efficiency and demonstrate specific water conservation measures.*
  - W-P4.7 County facilities shall adopt water conservation measures and when appropriate retrofit existing facilities to improve water conservation.
- Goal W-5 Protect water quality through effective stormwater management.
  - W-P5.1 The County shall continue outreach activities to inform residents and workers that illegal discharge into storm drains negatively impacts groundwater and surface water quality.
  - W-P5.2 New development projects shall identify and adequately mitigate their water quality impacts from stormwater runoff.
  - W-P5.3 Pervious pavements shall be allowed and encouraged where their use will not hinder mobility.
  - W-P5.4 Temporary facilities shall be installed as necessary during construction activities in order to adequately treat stormwater runoff from construction sites.
  - W-P5.5 Stormwater collection systems shall be installed concurrently with construction of new roadways to maximize efficiency and minimize disturbance due to construction activity.

Health and Safety Element

- Goal HS-2 Protect people and property from flood risk.
    - HS-P2.1 The County supports the efforts of regional, State and federal agencies to improve flood management facilities along the Sacramento River while conserving the riparian habitat of the river.
    - HS-P2.2 The County supports the efforts of private landowners and public agencies to maintain existing flood management facilities.
    - HS-P2.3 The County supports the Flooding Mitigation Action Plan in the Butte County Local Hazard Mitigation Plan.
    - HS-P2.4 Development projects on lands within the 100-year flood zone, as identified on the most current available maps from FEMA [the most current available map at the time of the publication of General Plan 2040 is shown on Figure HS-1], shall be allowed only if the applicant demonstrates that it will not:
        a. Create danger to life and property due to increased flood heights or velocities caused by excavation, fill, roads and intended use.
        b. Create difficult emergency vehicle access in times of flood.
        c. Create a safety hazard due to the height, velocity, duration, rate of rise and sediment transport of the flood waters expected at the site.
        d. Create excessive costs in providing governmental services during and after flood conditions, including maintenance and repair of public facilities.
        e. Interfere with the existing water conveyance capacity of the floodway.
        f. Substantially increase erosion and/or sedimentation.
        g. Require significant storage of material or any substantial grading or substantial placement of fill that is not approved by the County through a development agreement, discretionary permit, or other discretionary entitlement; a ministerial permit that would result in the construction of a new residence; or a tentative map or parcel map.
        h. Conflict with the provisions of the applicable requirements of Government Code Sections 65865.5, 65962 or 66474.5.
    - HS-P2.5 The lowest floor of any new construction or substantial improvement within Flood Zones A, AE, AH and AO, as shown in Figure HS-1 or the most current maps available from FEMA, shall be elevated 1 foot or more above the 100-year flood elevation. (County Flood Ordinance Sec. 26-22).
    - HS-P2.4 The County shall make specific findings prior to approval of a development agreement, tentative or parcel map, a subdivision or discretionary permit or other discretionary entitlement, or any ministerial permit that would result in the construction of a new residence. Findings shall be consistent with California

Department of Water Resources (DWR) Urban Level of Flood Protection Criteria within the 200-year floodplain, if applicable.

- HS-P2.4 The County shall not, and will encourage other agencies within its bounds to not, locate new essential government service facilities (as defined in Section 2) and essential health-care facilities in Flood Zones A, AE, AH and AO, as shown in Figure HS-1 or the most current maps available from FEMA, and within the 200-year floodplain, as shown in Figure HS-2, and as defined in Government Code Section 65007. Essential facilities in these areas shall have heightened flood protection.

- Goal HS-3 Prevent and reduce flooding.
  - HS-P3.1 Watersheds shall be managed to minimize flooding by minimizing impermeable surfaces, retaining or detaining stormwater and controlling erosion.
  - HS-P3.2 Applicants for new development projects shall provide plans detailing existing drainage conditions and specifying how runoff will be detained or retained on-site and/or conveyed to the nearest drainage facility and shall provide that there shall be no increase in the peak flow runoff to said channel or facility.
  - HS-P3.3 All development projects shall include stormwater control measures and site design features that prevent any increase in the peak flow runoff to existing drainage facilities.
  - HS-P3.4 Developers shall pay their fair share for construction of off-site drainage improvements necessitated by their projects.

Upper Ridge Community Plan

The following policies are included in the existing URCP regarding hydrology and water quality and water supply. The numbering is from the plan and therefore may not be consecutive.

Hazard Risk Reduction Strategies - Drought

- **Strategy HS-1.1:** Develop alternative water supplies to support the Upper Ridge during drought conditions.
  - Increase the use of rainwater catchment and retention systems as a source of landscaping irrigation and outdoor water use.
  - Incentivize the installation of greywater systems in existing and new development through grants or other funding mechanisms.
- **Strategy HS-1.2:** Encourage alternative forms of recreation on the Upper Ridge that are less dependent on water levels of Paradise Lake and Magalia Reservoir, such as hiking, horseback riding, and mountain biking.
- **Strategy HS-1.3:** Work with Del Oro Water company to develop a water conservation education program for community residents and visitors.

Hazard Risk Reduction Strategies – Flooding

- **Strategy HS-1.6:** Support Paradise Irrigation District in seeking funding for retrofitting Magalia Dam to decrease the potential for dam failure.
- **Strategy HS-1.7:** Develop a Stormwater Master Plan for the Upper Ridge, evaluating where stormwater infrastructure is deficient in conveying a 100-year storm, integrating climate change considerations, and providing infrastructure development or upgrades to reduce flooding and ponding of water on the Upper Ridge.

Integrated Water Resources Plan

Butte County adopted an Integrated Water Resources Plan that establishes water management policies and priorities, as well as programs and projects to implement those policies. The policies focus on local water resource issues and cooperative water management with other entities. The plan sets the stage for many of the County's water planning efforts.

Agricultural Water Management Plans (AB 3616)

According to the Water Conservation Act of 2009 (SB X7-7), large water suppliers (i.e., those serving more than 25,000 irrigated acres, excluding recycled water) must adopt and submit to the California Department of Water Resources an Agricultural Water Management Plan that includes the status of specific Efficient Water Management Practices (EWMPs). The plans can be submitted by individual agricultural water supplies or as collaborative regional plans. SB X7-7 does not require mid-sized agricultural water suppliers (i.e., those serving between 10,000 and up to 25,000 irrigated acres, excluding recycled water) to submit AWMPs unless State funds are made available for this effort. DWR provides for a range of options that may be used or implemented to comply with the SB X7-7 agricultural water volume measurement requirements.

Groundwater Management Plan

AB 3030 (Groundwater Management Act) was signed into law in January 1993, to facilitate coordinated groundwater management among agencies, and greater management authority for local agencies whose service area includes all or part of a groundwater basin, through development of a Groundwater Management Plan (often referred to as an AB 3030 Plan). Since adoption of the Sustainable Groundwater Management Act (SGMA), medium- and high-priority basins are prohibited from adopting or updating their AB 3030 Plans; however, until adoption of a Sustainable Groundwater Management Plan, AB 3030 plans are in effect.

In Butte County, the Biggs-West Gridley Water District, Butte Water District, Richvale Irrigation District, Thermalito Water and Sewer District, Western Canal Water District, and the County itself have AB 3030 plans in place that outline the agencies' management activities and encourage coordinated management of the groundwater basin.

Groundwater management plans have a series of required components, including:

- Public participation.
- Stated Management Objectives.

- Mapping of the groundwater basin's area and the boundaries of other local agencies that overlie the basin.
- A plan for coordination with other agencies sharing in the groundwater basin.
- Components relating to the monitoring and management of groundwater levels, groundwater quality, subsidence, and changes in surface flow and surface water quality directly related to groundwater quality, quantity or pumping activity.
- Monitoring protocols capable of tracking changes in conditions for the purpose of meeting Basin Management Objectives (BMO).

The requirement to prepare AB 3030 plans has not always resulted in implementation of comprehensive groundwater management programs, since many counties choose to rely on simple strategies, such as limits on exports, to address groundwater supply issues. In other cases, preparation of AB 3030 plans has led agencies to take a stronger role in groundwater management. Butte County has taken such a stance and has developed a groundwater management plan for areas not already covered by the plan that guides its groundwater planning activities.

Vina Subbasin

The Vina Subbasin is a portion of the larger Sacramento Groundwater Basin covering approximately 184,917 acres. The subbasin is located entirely within Butte County and is generally bounded by Tehama County to the north, the alluvial basin to the east, the border of the Western Canal Water District, and the Sacramento River to the west. The Vina Subbasin has two Groundwater Sustainability Agencies (GSA): Vina GSA and Rock Creek Reclamation District GSA. The groundwater sustainability plan outlines the need to address overdraft and related conditions and has identified 15 projects for potential development that either replace groundwater use (offset) or supplement groundwater supplies (recharge) to meet current and future demands.

Wyandotte Creek Subbasin

The Wyandotte Creek Subbasin is a portion of the larger Sacramento Valley Groundwater Basin covering approximately 59,382 acres. The subbasin is located entirely within Butte County and is generally bounded on the north and west by the Feather River, on the south by the Butte-Yuba county line and on the east by the edge of the alluvial basin as defined by Bulletin 118. The groundwater sustainability plan outlines the need to address overdraft and related conditions and has identified 15 projects for potential development that either replace groundwater use (offset) or supplement groundwater supplies (recharge) to meet current and future demands.

Butte Subbasin

The Butte Subbasin, which is part of the Sacramento Valley Groundwater Basin, is bounded in the south by the Sutter Subbasin, in the west by Sacramento River and Colusa Subbasin, in the north by the Corning and Vina Subbasins, and in the east by the Feather River and the Wyandotte Creek Subbasin. The vertical boundaries of the subbasin are the land surface (upper boundary) and definable bottom of the basin (lower boundary). The vertical extent of the subbasin is subdivided into a surface water system (SWS) and

groundwater system (GWS). The groundwater sustainable plan outlines the strategy by which the Butte Subbasin GSAs will maintain sustainable groundwater management through the implementation period until 2042.

Thermalito Water and Sewer District 2020 Urban Water Management Plan

The 20202 Urban Water Management Plan has been prepared in accordance with the Urban Water Management Act. The Act requires urban water suppliers providing municipal water to more than 3,000 connections or supplying more than 3,000 acre-feet of water annually to adopt and submit a plan every five years to the California Department of Water Resources. The 2020 Urban Water Management Plan is part of the Thermalito Water and Sewer District's long-term resource planning efforts to ensure adequate water supplies are available to meet existing and future water demands.

Groundwater Conservation Ordinance

In November 1996, Butte County voters approved a groundwater conservation ordinance intended to provide groundwater conservation through local regulation of water transfers which move water outside of the county and have a groundwater component. Under this ordinance, a permit is required for both exportation of groundwater outside the county and groundwater pumping as a substitute for surface water exported outside the county. A permit for this type of water transfer outside of the county would be denied if the proposed activity would adversely affect the groundwater resources in the county, including causing or increasing overdraft of the groundwater; causing or increasing saltwater intrusion; or exceeding the safe yield of the aquifer or related sub-basins within the county, and causing subsidence or resulting in uncompensated injury to overlying groundwater users or other users. The Groundwater Conservation Ordinance restructured the Water Commission and the Technical Advisory Committee.

Stormwater Management Program

Butte County operates under a Small Municipal Separate Storm Sewer Systems (Small MS4) permit as required by Phase II of the NPDES, and which currently covers the urbanized area around the City of Chico. In order to fulfill the requirements of the permit, Butte County developed and implemented a Stormwater Management Program in 2003. The program is managed at the State level by the SWRCB under a permit from the EPA. The program includes the following core elements:

- Public education and outreach.
- Public participation and involvement.
- Illicit discharge detection and elimination.
- Construction site stormwater runoff control.
- Post-construction stormwater management in new development and redevelopment.
- Pollution prevention for County operations and facilities.

The program also includes descriptions of best management practices (BMP) to address specific activities identified in the regulations, such as illicit discharge. The Department of Public Works and the Development Services Department are responsible for planning, inspection, enforcement, and permit clearances for

construction projects in the county. The Department of Public Works is responsible for the County's stormwater drainage system.

Butte County Well-Spacing Ordinance (Chapter 23B)

The Well-Spacing Ordinance identifies procedures for the proper construction and placement of water wells, as well as appropriate techniques for retiring out of commission wells. To reduce the risk of depleting the county's ground water resources, the Ordinance requires that wells of an engineered pumping capacity of 1,000 gallons per minute or greater must be located no closer to another well than the distances provided in Table 5.10-1, *Well Spacing Requirements in Butte County*. The ordinance also makes clear that retired wells must be sealed to reduce the risk of shallow water contamination into a deep aquifer. Sealing a retired well must be sufficient to exclude water from 50 feet below ground to the surface.

TABLE 5.10-1 WELL SPACING REQUIREMENTS IN BUTTE COUNTY

Engineered Pumping Capacity (Gallons Per Minute)	Well Spacing Requirement (Feet)
1,000	450
2,000	1,150
3,000	1,700
4,000	2,200
5,000	2,600
Greater than 5,000	Variance shall be required

Source: Butte County Code, Chapter 23B-5c.

Stormwater Management and Discharge Control Ordinance

Butte County adopted the Stormwater Management and Discharge Control Ordinance under Chapter 50 of the Butte County Code. The ordinance provides the County with the legal authority to enforce various stated goals regarding water pollution to protect and enhance public health and the environment.

Butte County Wastewater Ordinance

The Butte County Division of Environmental Health is responsible for permitting and inspection of on-site wastewater systems. Butte County's Wastewater Ordinance regulates individual on-site wastewater treatment and disposal systems within unincorporated areas of the county. However, to help address failing wastewater systems, and improve the practices and requirements for new construction, the County is in the process of updating its On-Site Wastewater Ordinance. The proposed ordinance would update and replace existing regulations in order to be more consistent with applicable requirements of the Central Valley Regional Water Quality Control Board (Basin Plan) and to incorporate other changes based on the current state of knowledge and advances in practices and technologies for on-site wastewater treatment and dispersal. In particular, the proposed ordinance would establish minimum requirements for soil suitability in the locations of proposed wastewater systems. It would also provide a broader range of treatment and dispersal technologies to overcome limiting soil and groundwater constraints. The updated ordinance has been developed and is currently undergoing public and environmental review. It would become effective when and if adopted by the County Board of Supervisors.

Flood Mitigation Plan

The Butte County Flood Mitigation Plan was prepared by the Butte County Office of Emergency Services and adopted in 2006. The overall purpose of the Plan is to provide guidance to agencies and the public responsible for and interested in protecting life, property and livestock, land use planning, administering the FEMA National Flood Insurance Program, and responding to flood emergencies within Butte County.

Flood Hazard Prevention Ordinance

The Butte County Flood Hazard Prevention Ordinance (Chapter 26, Article IV of the Butte County Municipal Code) requires the Department of Development Services to review all applications for new construction or subdivisions within flood hazard areas, and requires that the lowest floor of any new construction or substantial improvement within Flood Zones A, AE, AH, and shaded Zone X be elevated one foot or more above the regulatory flood elevation. Applicants must also show that development within the floodplain will not raise the existing flood level in a manner that adversely affects any neighboring property.

5.10.1.2 EXISTING CONDITIONS

Geography

Butte County is in the Sacramento River Hydrological Region, which covers approximately 17 million acres (27,000 square miles) and extends south from the Modoc Plateau and Cascade Range at the Oregon border to the Sacramento-San Joaquin Delta. In addition to Butte County, the region includes all or large portions of Modoc, Siskiyou, Lassen, Shasta, Tehama, Glenn, Plumas, Colusa, Sutter, Yuba, Sierra, Nevada, Placer, Sacramento, El Dorado, Yolo, Solano, Lake, and Napa Counties. The region includes the Sacramento River, the longest river system in the State of California, and its tributaries, including the Pit, Feather, Yuba, Bear, and American Rivers as its major tributaries.

The Sacramento River Hydrologic Region includes the entire California drainage area of the Sacramento River and its tributaries, as shown in Figure 5.10-1, *Sacramento River Hydrologic Region*. The region extends from Chipps Island in Solano County north to Goose Lake in Modoc County. It is bounded by the Sierra Nevada on the east, Coast Ranges on the west, the Cascade and Trinity Mountains on the north, and the Sacramento-San Joaquin River Delta (Delta) on the south. The Sacramento River Basin begins in Oregon, north of Goose Lake, a near-sink that intercepts the Pit River drainage at the California-Oregon border.

The Sacramento River Hydrological Region is the main water supply for much of California's urban and agricultural areas. Annual runoff in the region averages about 22.4 million acre-feet (MAF), which is nearly one-third of the State's total natural runoff. Major water supplies in the region are provided through surface storage reservoirs. The two largest surface water projects in the region are the US Bureau of Reclamation's Shasta Lake/Dam (Central Valley Project) on the upper Sacramento River in Shasta County and Lake Oroville (California Department of Water Resources' State Water Project) on the Feather River in Butte County. Municipal, industrial, and agricultural supplies to the region are about 8.0 MAF, with groundwater providing about 2.5 MAF of that total. Much of the remainder of the total runoff goes to dedicated natural flows that support various environmental requirements, including in-stream fishery flows and flushing flows in the Delta.

Climate, Precipitation, and Flow Variability

Surface water flows in Butte County and the Sacramento Basin are extremely variable, both seasonally and annually, although their partial dependence on annual snow melt tends to mitigate the seasonal variability. Butte County includes the geographic provinces of the Sacramento Valley, and the foothill and mountain areas of the Sierra and Cascade ranges. The mountainous portions of the county comprise approximately a third of the county's land area and function as the major watershed area, though the foothill areas also collect considerable precipitation. Higher-altitude portions of the county receive abundant snowfall. Most of the annual precipitation occurs during the winter and spring, and the highest water usage is during the hot, dry summer months when agricultural irrigation is in progress.

Precipitation in different portions of the county ranges from less than 20 inches of annual rainfall in the western valley area to over 80 inches in the eastern Cascades and Sierra Nevada mountains. The presence of mountainous topography in the east of the county generates a strong orographic effect relative to precipitation between this region and the lower elevation valley areas. The orographic effect is an atmospheric condition which is triggered as a result of forced upward movement of air upon encountering a mountain. As air rises, it cools and water vapor condenses. As a result, it is common for rain to be concentrated on the windward side of mountains, and for rainfall to increase with elevation in the direction of storm tracks. Moisture-laden weather patterns from the Pacific Ocean move east during the winter months, and orographic cooling occurs as the moving air mass is forced upward over the Sierra Nevada, resulting in condensation of moisture and precipitation. Up to 4,000 feet above sea level, most of the precipitation falls as rain. Above 4,000 feet, a considerable portion of winter precipitation falls as snow. Variation in precipitation across the county is shown in Figure 5.10-2, *Annual Precipitation in Butte County*.

Table 5.10-2, *Annual Precipitation and Snowfall at Four Stations (inches),* shows minimums, averages, and maximums of annual precipitation and snowfall, based on measurements taken at four county weather stations. The figures shown in the table illustrate the seasonal variation in precipitation and variation in rainfall and snowfall over different elevations. For example, over twice as much rain is recorded annually at the DeSabla station, at 2,700 feet above sea level, as in Oroville, which is at 171 feet above sea level. Figure 5.10-3, *Average Annual Precipitation in Winter and Summer, Butte County Weather Stations,* graphs seasonal variation in precipitation. As shown in the figure, precipitation is also highly variable seasonally, with about half the total annual precipitation falling between November and February.

TABLE 5.10-2 ANNUAL PRECIPITATION AND SNOWFALL AT FOUR STATIONS (INCHES)

	CSU Chico Farm	Oroville	Paradise	De Sabla
Elevation (feet above mean sea level)	185	171	1,750	2,710
Precipitation				
Average	25.66	28.38	54.56	63.52
Maximum	50.33	59.98	100.03	121.24
Minimum	10.40	11.84	18.20	17.34
Snowfall				
Average	0.06	0.14	1.99	23.56
Maximum	2	6	21.3	45.30
Minimum	0	0	0	0

Source: WRCC 2021.

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Source: Butte County, 2021; PlaceWorks, 2021; Statewide Farmland Mapping and Monitoring Program, 2016

Figure 5.10-1
Sacramento River Hydrologic Region

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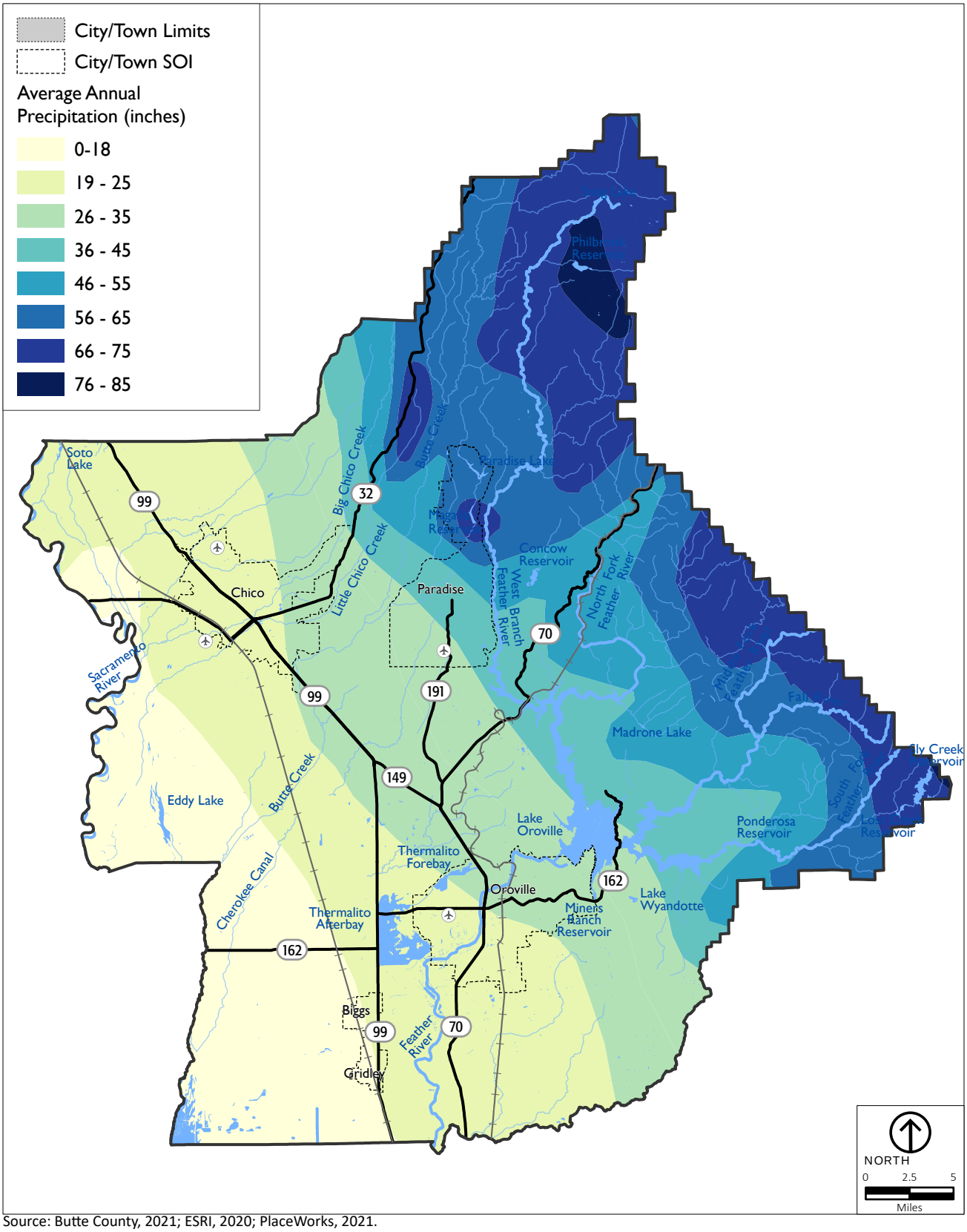

Source: Butte County, 2021; ESRI, 2020; PlaceWorks, 2021.

Figure 5.10-2

Annual Precipitation in Butte County

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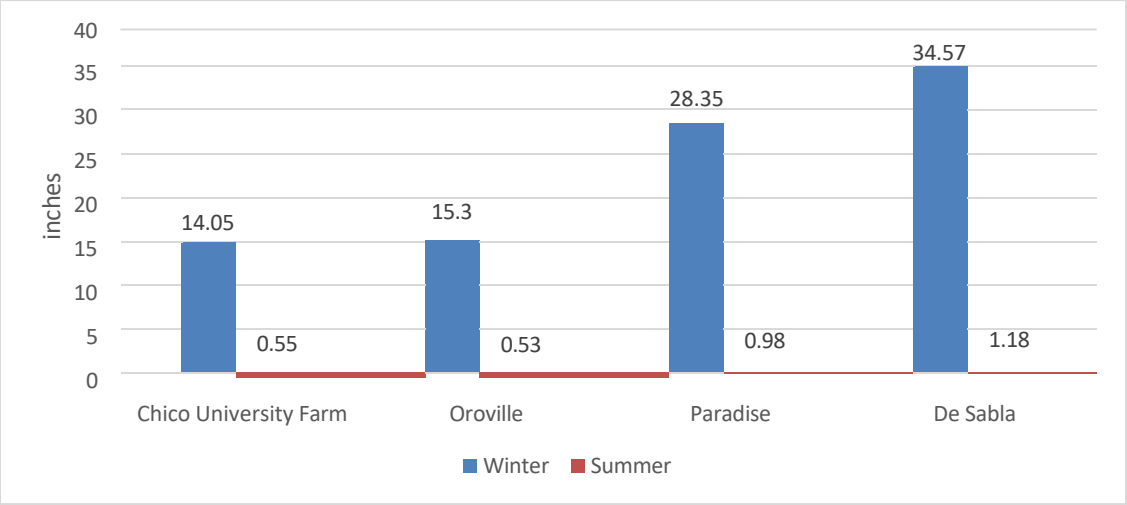
Figure 5.10-3 Average Annual Precipitation in Winter and Summer, Butte County Weather Stations



Source: WRCC 2021.

Table 5.10-3, *County Surface Water Inflows in Cubic Feet per Second (cfs),* shows a summary of monthly flow data at two streamflow measurement sites in the county. Both measurement sites demonstrate a wide variability in flow. For Big Chico Creek (see Figure 5.10-1), the month of maximum flow was ten times higher than the mean flow rate. For Butte Creek (See Figure 5.10-1), the maximum flow month was seven times higher than the mean flow rate, and the mean was nine times higher than the minimum flow month. The highest monthly flows occur between January and April, and the minimum flows occur between July and October.

TABLE 5.10-3 COUNTY SURFACE WATER INFLOWS IN CUBIC FEET PER SECOND (CFS)

Month	Big Chico Creek Near Chico	Butte Creek Near Chico
January	327	662
February	390	793
March	324	765
April	220	762
May	90	490
June	43	283
July	29	166
August	25	134
September	24	117
October	36	133
November	83	211
December	216	465
Mean Monthly cfs	149	407
Maximum Monthly cfs	1508	2,925
Minimum Monthly cfs	14.8	46.1

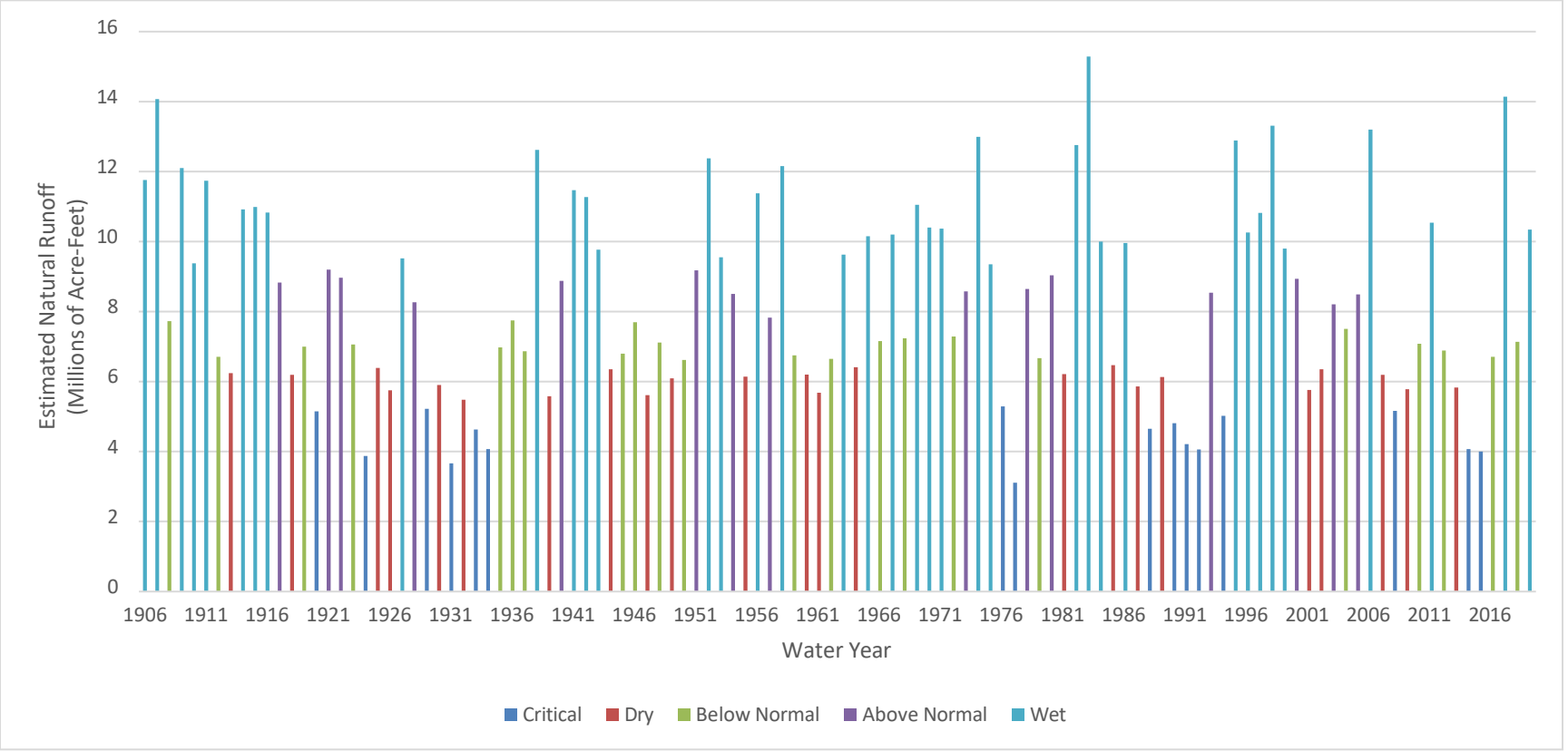
Source: USGS 2021.

As well as being seasonally variable, surface water flow is highly variable on a year-to-year basis. A good indicator of annual surface flow variability in the region is the Sacramento River Water Supply Index. Based on the calculated runoff in million acre-feet, each year of the index is then classified as wet, above normal, below normal, dry or critical. Figure 5.10-4, *Sacramento River Water Supply Index,* graphs the Sacramento River Water Supply Index annually since 1906 and the classification of each year. The annual variability for the northern Sacramento Valley is quite pronounced, with wet years, dry years and critically dry years occurring frequently. This seasonal, yearly, and orographic variability creates the need for an extensive system of water storage and delivery as well as well-developed water management techniques.

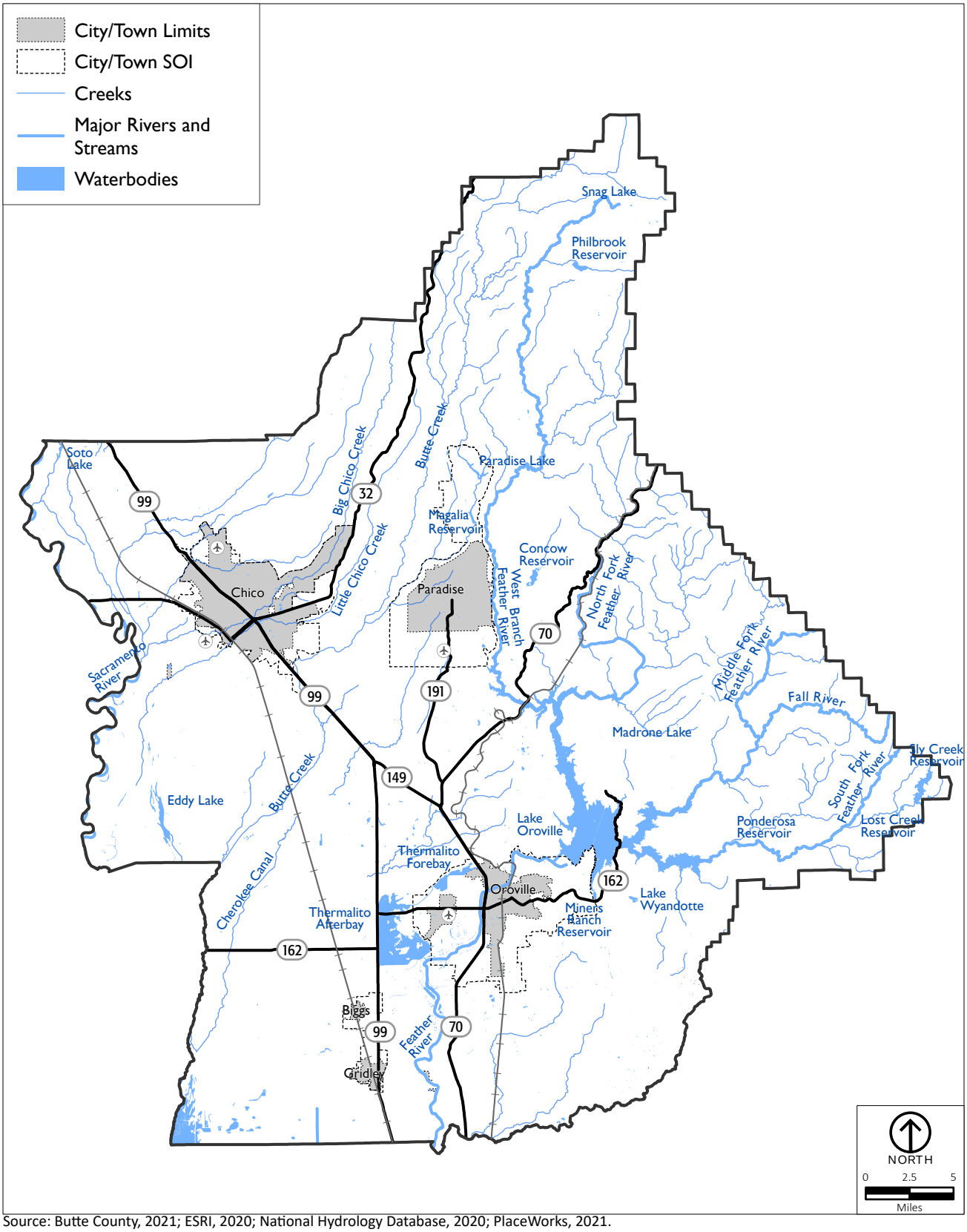
Surface Water

Figure 5.10-5, *Surface Water Features,* provides an overview of the major surface water features in Butte County, which lies entirely within the Sacramento River watershed. Primary waterways include the Feather River with its several branches; the Sacramento River, which forms the county's western boundary; and Butte Creek and Big Chico Creek. The majority of the surface water supply used by Butte County residents and businesses originates in the Feather River watershed, accumulates in Lake Oroville, and is primarily used for agriculture locally.

Figure 5.10-4 Sacramento River Water Supply Index



Source: California Department of Water Resources, California Cooperative Snow Surveys, 2019.



Source: Butte County, 2021; ESRI, 2020; National Hydrology Database, 2020; PlaceWorks, 2021.

Figure 5.10-5
Surface Water Features

Key characteristics of the county's primary waterways are summarized in Table 5.10-4, *Surface Water Resources*; additional information on some of the most significant of these waterways is provided in the following sections.

TABLE 5.10-4 SURFACE WATER RESOURCES

Name	Location	Current Use/ Potential for Use
Big Chico Creek	Bisects Chico	Recreation, important wildlife habitat
Butte Creek	Butte Meadows to southwest county boundary	Irrigation, stock watering, recreation, important wildlife habitat, fisheries
Dry Creek/ Cherokee Canal	Near Paradise to southwestern portion of county	Water supply
Little Butte Creek	Northeastern portion of county	Water supply, wildlife habitat
Little Chico Creek	Northeast of Chico	Water supply, important wildlife habitat
Middle Fork Feather River	East of Oroville	Power, recreation, important wildlife habitat
North Fork Feather River	Northeast of Oroville	Power, recreation, important wildlife habitat, fisheries
Rock Creek	Northwest of Chico	N/A
Sacramento River	Western boundary of County	Irrigation, stock watering, important wildlife habitat, recreation, fisheries
Lake Oroville	Oroville	Recreation, power, irrigation, wildlife habitat.
Thermalito Forebay	Oroville	Recreation, power, irrigation, important wildlife habitat
Thermalito Afterbay	Oroville	Irrigation, important wildlife habitat, recreation

Source: Butte County, Water Inventory & Analysis Report, 2016.

Big Chico Creek

Big Chico Creek flows from the northern portion of the county through Bidwell Park in the city of Chico, and eventually into the Sacramento River near River Road.

A survey and special study by CDFW in 1989 found severe declines in fish populations (salmon and steelhead trout) from historical levels. The decline was largely attributed to agricultural pumping at the confluence of Big Chico Creek and the Sacramento River. Relocation of the pumps and implementation of other measures have significantly improved the health of the stream.

Butte Creek

Butte Creek originates in the hills of Butte Meadows and flows through the southern portion of the cities of Chico and Durham to form the county border from Nelson Road south. This creek is used mostly for recreation and fishing in the upper reaches near Butte Meadows and in Chico and Durham. Southern portions of the creek provide stock watering and irrigation. The upper reaches of Butte Creek are characterized by excellent flow, temperature, and habitat conditions for salmon. In the past, diversion dams in lower Butte Creek have presented problems for fish migration and have impacted spawning grounds.

However, since 1996, four major diversion dams were removed just below Highway 99, and other improvements have been made on Lower Butte Creek that improved the ability of salmon to migrate up this creek. Though salmon populations had decreased substantially in the previous 30 years, their numbers have been rebounding due to these improvements and a series of wet winters. According to CDFW, out of the entire Central Valley, Butte Creek has the largest self-sustaining and natural spawning population of wild spring-run Chinook salmon.

Middle Fork of the Feather River

The Middle Fork of the Feather River is east of Oroville and enters Lake Oroville north of Feather Falls. Within Butte County, a portion of this river has been designated a National Wild and Scenic River. Although the steep canyons forming the river walls make access difficult, the river is host to various recreational activities and provides rich wildlife habitat.

North Fork of the Feather River

The North Fork of the Feather River flows southwest out of the Sierra Nevada into Lake Oroville. The river supports various recreational activities and a rich wildlife habitat. It also has excellent conditions for hydroelectric power generation and hosts nine hydroelectric facilities. Four additional hydroelectric facilities are proposed for tributaries.

South Fork of the Feather River

The South Fork flows southwest/west out of the Sierra Nevada. In Butte County, the South Fork is east of Oroville and enters Lake Oroville at the Ponderosa Reservoir. The river provides a rich wildlife habitat that supports a variety of animal and plant species.

Sacramento River

The Sacramento River forms the western boundary of the county and supports various recreational activities, agricultural irrigation, stock watering, and diverse wildlife habitats, including habitat for special status species (federal and State-listed threatened and endangered species). The river has carved wide flood plains outside both banks. In an effort to contain the river's floodwater, levees have been built along a large portion of its banks. The California Department of Water Resources, Division of Flood Management established the Sacramento River Flood Control Project to implement flood control projects for the entire Sacramento River system, including its tributaries. The main component of this project in Butte County is the Sacramento River Bank Protection Program.

Groundwater

Groundwater is stored in the pore spaces between particles of granular soil and rock materials, and in the joints and fractures of consolidated rocks. In coarse-grained material, such as sand and gravel, pores are more interconnected than those of clay or silt, facilitating the free movement of water. Fine-grained materials, such as clay and silt deposits, impede groundwater movement and do not readily yield water. Consolidated rocks provide storage space in their joint and fracture systems, which allow for groundwater

movement and water yield. Only where wells directly intercept major joints or fractures do these aquifers provide dependable water sources.

In Butte County, groundwater is located in the thick sedimentary deposits of the Sacramento Valley Groundwater Basin. A majority of residential water supply in incorporated portions of the county is extracted from groundwater basins. The availability of groundwater in an area depends largely on its geologic, hydrologic, and climatic conditions. Groundwater can also be found in more limited amounts in mountainous areas of the county within fractures of volcanic, metamorphic, and granitic rock. Figure 5.10-6, *Groundwater Basins and Subbasins*, maps the groundwater basin and subbasins in Butte County.

Geomorphology

Butte County is composed of three primary geomorphic provinces in two categories: the mountain provinces (consisting of the Cascade and Sierra Nevada Geomorphic Provinces) and the great valley province (consisting of four subareas). The four great valley province subareas are:

- Dissected alluvial uplands
- Low alluvial plains and fans
- Floodplain and natural levees
- Flood basins

Butte County has two primary groundwater resource areas: the groundwater from Sacramento Valley aquifer system and the mountainous areas to the east and north, which have restricted groundwater resources. These areas are described below.

Sacramento Valley

Although the relative amounts of coarse-grained and fine-grained material in the alluvial deposits of the Sacramento Valley vary greatly in both the vertical and horizontal extent, in general, clay and fine-grained deposits far exceed those of coarse-grained materials. Coarser materials are deposited in foothill areas and in deeper zones where coarse-dominated materials of the Tuscan Formation occur at depth to the west near the Sacramento River. Finer materials are transported further into the valley and are more gradually deposited throughout the floodplain.

Groundwater is found in perched, unconfined, semiconfined, and confined zones in the valley portion of Butte County. Perched groundwater zones are most common in shallow, consolidated soils with low permeability. Major portions of groundwater are unconfined or semiconfined, occurring in the floodplain and alluvial fan deposits and in the Tuscan Formation[1]. High permeability in these materials yields large amounts of water to relatively shallow domestic wells and irrigation wells. Well-sorted coarse sand and gravel of the Older Alluvium and Recent Stream Alluvium are highly permeable and yield large amounts of water to domestic and irrigation wells.

[1] The Tuscan Formation consists of a series of layers deposited by streams and mudflows between two and four million years ago.

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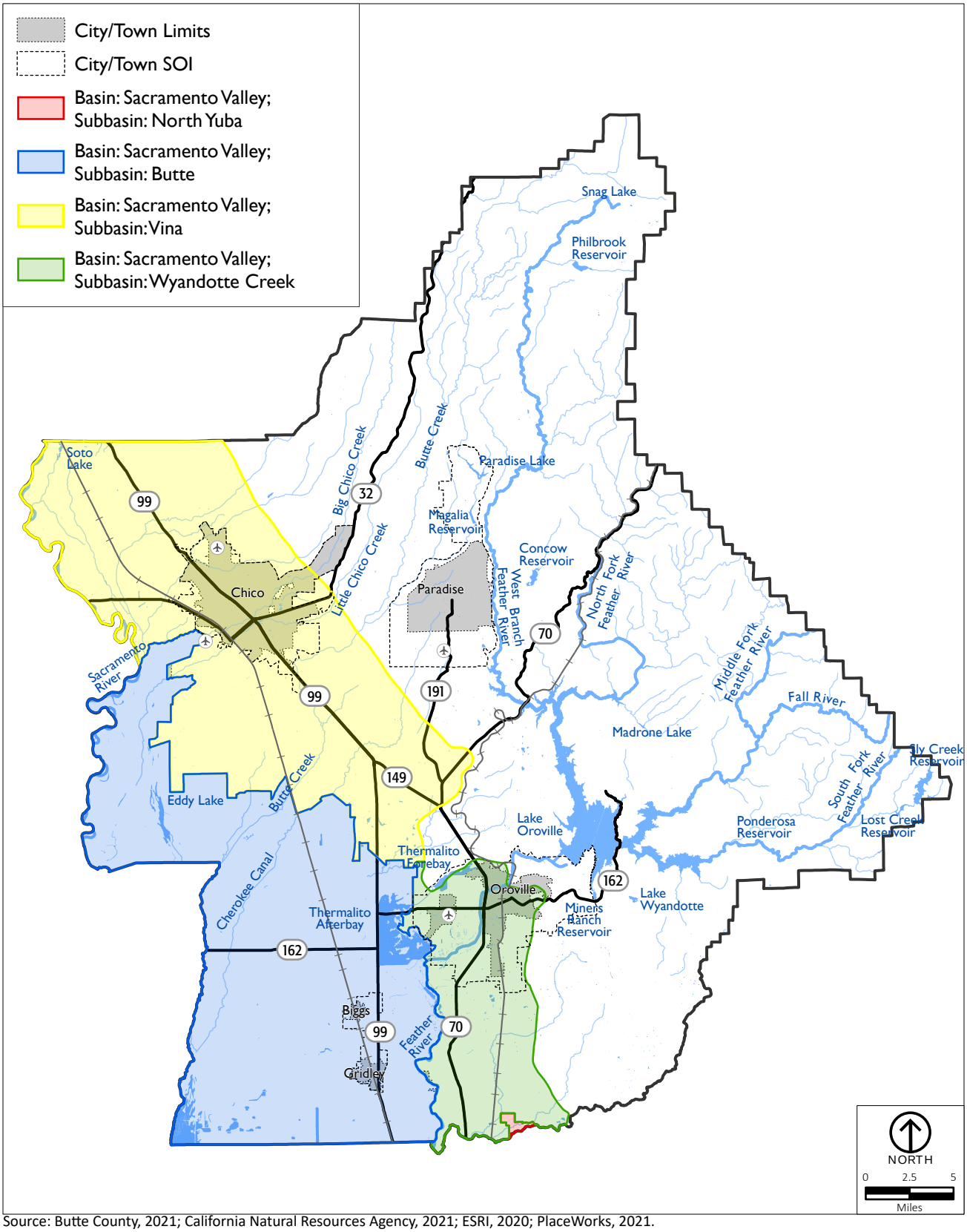

Source: Butte County, 2021; California Natural Resources Agency, 2021; ESRI, 2020; PlaceWorks, 2021.

Figure 5.10-6
Groundwater Basins and Subbasins

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The Tuscan and Laguna Formations contain semiconfined and confined groundwater where it is overlain by flood-basin deposits. Toward the center of the Sacramento Valley, a confined deep zone of the Tuscan Formation is characterized by coarse-grained materials and interfingers with the finer-grained Tehama Formation originating from the west. Although moderate amounts of water are yielded from the fine-grained strata of the Laguna Formation, permeable sand and gravel zones are infrequent and minor in extent and thickness. The highest-producing wells in alluvial uplands occur when Older Alluvium or the underlying Tuscan volcanic rocks are tapped.

Mountain Areas

The pre-Cretaceous[2] rocks of the Sierra Nevada basement complex are consolidated and therefore exhibit low permeability. The groundwater in these rocks exists only in the soil mantle, highly weathered zones, or openings formed by fractures, joints, and faults. In the ridge areas, the Cretaceous-age Chico Formation contains fresh groundwater. The connate water (i.e., trapped in the rock at the time of its formation), which was saline or brackish, has been flushed out and replaced by potable groundwater, and deep wells on the ridges or in the canyons can tap this source. Weathered and open fractured rock can extend to several hundred feet deep. Shallow wells in perched zones typically yield only a few gallons per minute and can go dry during drought years.

Volcanic capped ridge areas having intervolcanic sand and gravel deposits and aquiferous gravels produce the most productive wells. Groundwater also occurs to a lesser extent in the soil mantle and weathered surface developed on the Tuscan rocks. Water in the surface zone is perched due to the impervious nature of the volcanic rocks. Perched groundwater is discontinuous from the water table, a discrete saturated zone that may be ephemeral (in direct response to precipitation in the immediate vicinity) or recharged by percolation from nearby surface water or other perched water zones. Perched groundwater may be a source of potable groundwater. The perched condition in areas with volcanic rock results in water flowing down-slope parallel to the ground surface and emerging in seeps along the canyon walls. Along the foothills, groundwater flows westward toward the Sacramento Valley and recharges the Tuscan sedimentary rocks beneath the younger valley deposits.

Recharge

The major sources of groundwater recharge in Butte County are percolation of rainfall, infiltration from surface waters, subsurface inflow, and deep percolation such as applied irrigation water in agricultural areas. Of the 3.77 million acre-feet of annual rainfall Countywide, less than half is used for irrigation or urban/industrial demand. Therefore, more than two million acre-feet become recharge or discharge via surface and subsurface outflow (PlaceWorks 2021). Subsurface inflow from higher elevations and percolation of precipitation are the major sources of groundwater recharge in the mountain areas. Some recharge probably occurs adjacent to through-flowing streams in areas of deeper soils or alluvial deposits. Deep percolation of streamflow infiltration and precipitation are major sources of groundwater recharge in the valley. Most of this recharge occurs on alluvial fans where streams have sustained flow and the soil is highly permeable. In areas with clay soils or buried hardpan layers, high rates of surface runoff and ponding

[2] The Cretaceous Period is a geological period that lasted from about 145 to 66 million years ago.

of water indicate locations where infiltration rates are low. Infiltration of surface runoff does occur in the lower foothill area and at the basin margin where Tuscan and fanglomerate[3] rocks are overlain by valley deposits.

Recharge Areas

The Tuscan Formation has been investigated by researchers since the early 1900s. The earlier studies helped define the expansive lateral extent of the Tuscan Formation in the subsurface of the northern Sacramento Valley and identify its hydrologic characteristics as a regional aquifer system and are important building blocks in developing our current understanding of the aquifer system and its hydrology. Since then, several studies funded by California water bonds have helped fuel the identification of groundwater recharge areas.

A 2018 report, "Evaluation of Restoration and Recharge within Butte County Groundwater Basins," focused on the identification and feasibility of both direct and in-lieu recharge of the groundwater basins in Butte County. A recharge constraints analysis was performed to identify superior recharge areas by scoring an array of physical characteristics, such as soil type, depth to groundwater, and geology, as well as human-influenced conditions that impact where recharge could be conducted. This analysis can be found in Figure 5.10-7, *Recharge Pond Constraints Mapping,* Figure 5.10-8, *Field Flooding Constraints Map,* Figure 5.10-9, *Groundwater Injection Constraints Mapping,* and 5.10-10*, In-Lieu Recharge Constraints Mapping.*

The report identified that planning and support of recharge programs designed to improve the use of currently existing water supplies are the strongest opportunity for encouraging groundwater recharge. This includes programs that encourage agricultural water users to install dual-source irrigation systems, policies that incentivize urban developers and property owners to install semi-permeable paving, and efforts to identify and advance local in-lieu recharge projects that would provide areas now partially or fully reliant on groundwater access to surface water supplies from willing local partners.

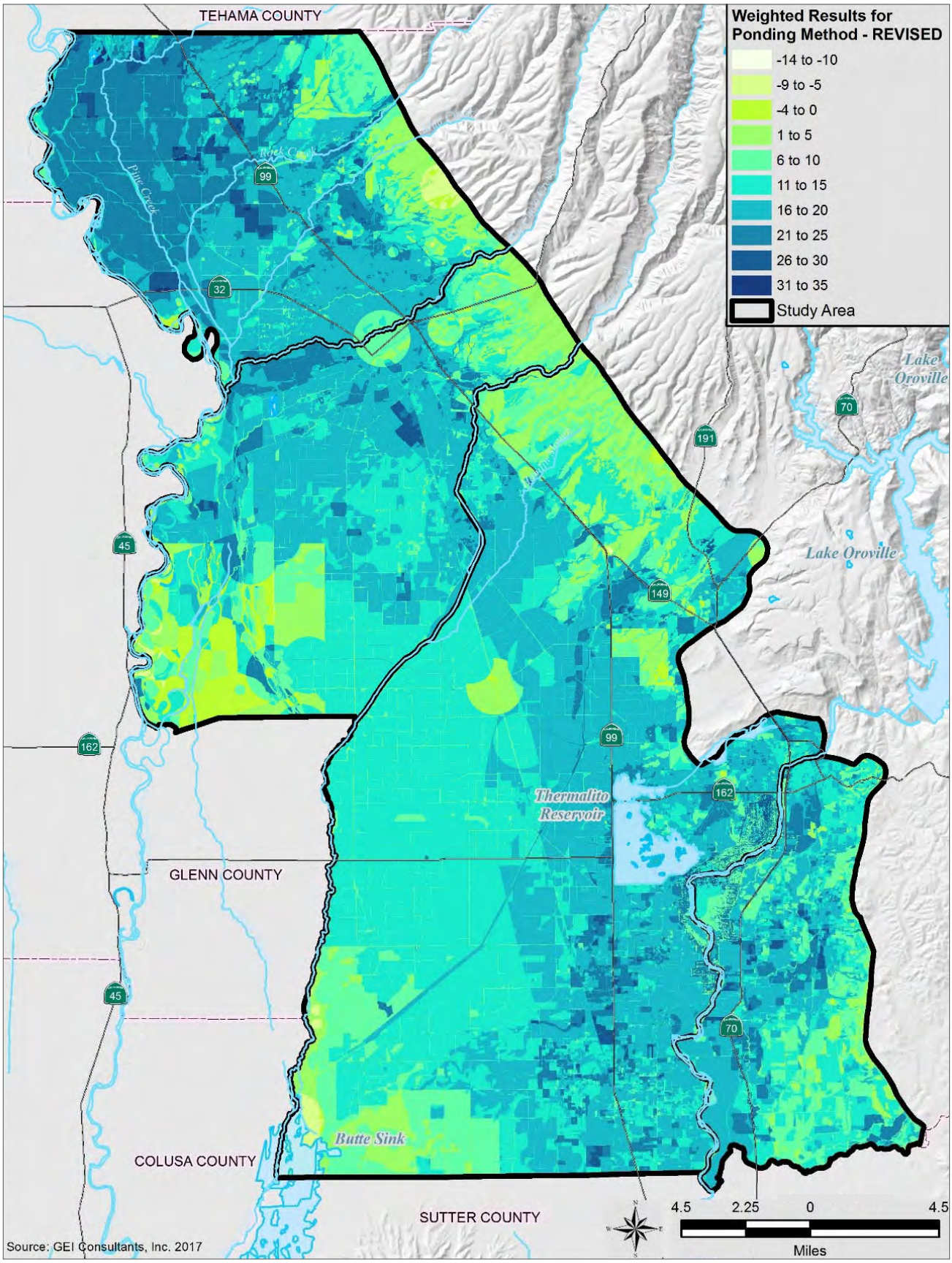
Major projects designed to make use of contracted water are appealing long-term options; however, implementation would require a substantial commitment of resources, negotiation of contracts with water purveyors, and negotiations with the US Bureau of Reclamation for those projects that intend to draw water from the Sacramento River.

In Butte County, the Biggs-West Gridley Water District, Butte Water District, Richvale Irrigation District, Thermalito Water and Sewer District, Western Canal Water District, and the County itself have AB 3030 plans in place that outline the agencies' management activities and encourage coordinated management of the groundwater basin.

Levels and Movement

Throughout a large portion of Butte County, fresh water reportedly extends to a depth of 1,060 feet below the ground surface. Groundwater level conditions near the ground surface can change due to extraction and natural processes.

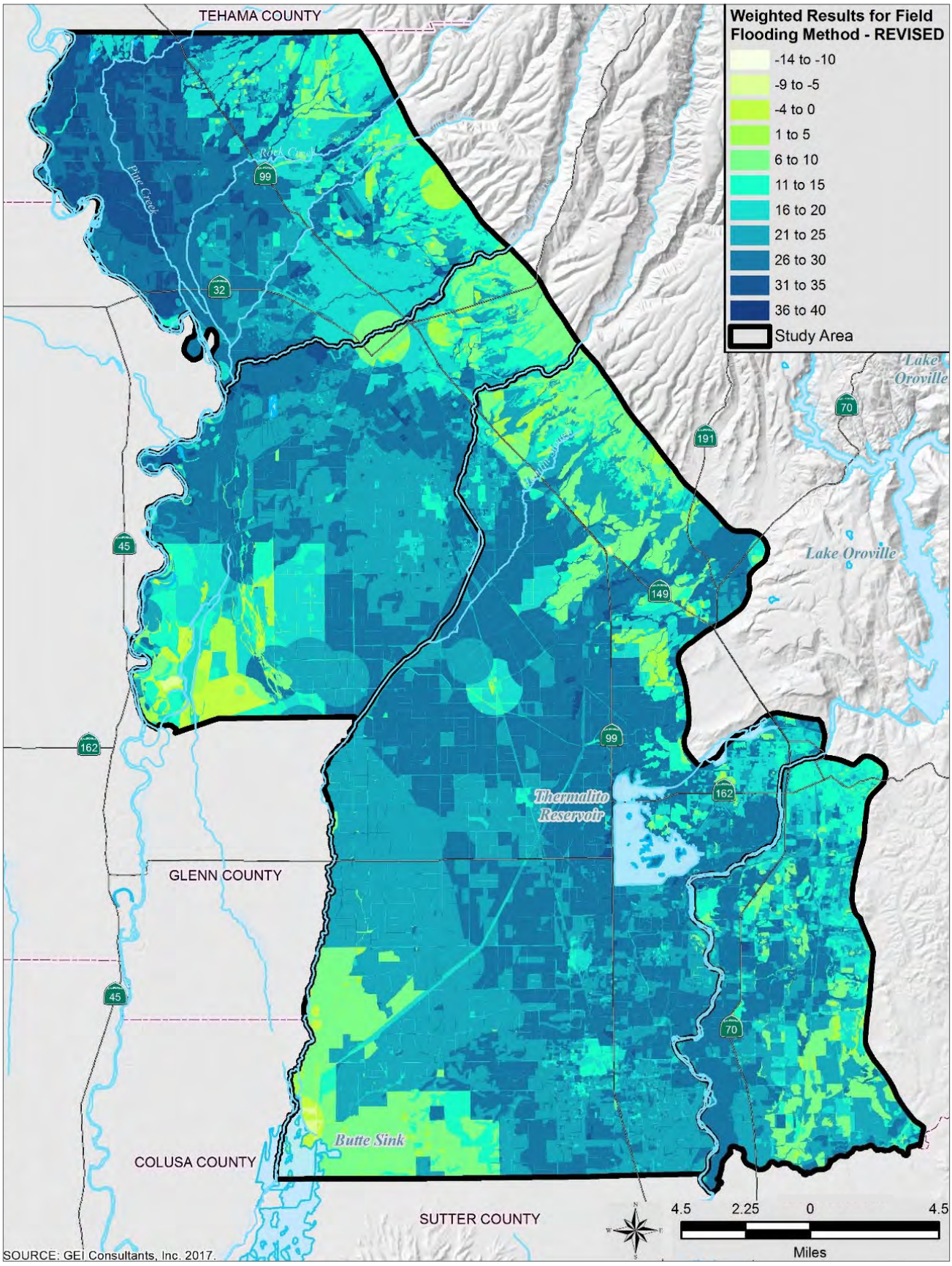
[3] A sedimentary rock consisting of slightly waterworn, heterogeneous fragments of all sizes, deposited in an alluvial fan and later cemented into a firm rock; it is characterized by persistence parallel to the depositional strike and by rapid thinning downdip.



Source: GEI Consultants, Evaluation of Restoration and Recharge Within the Butte County Groundwater Basins, 2018.

Figure 5.10-7

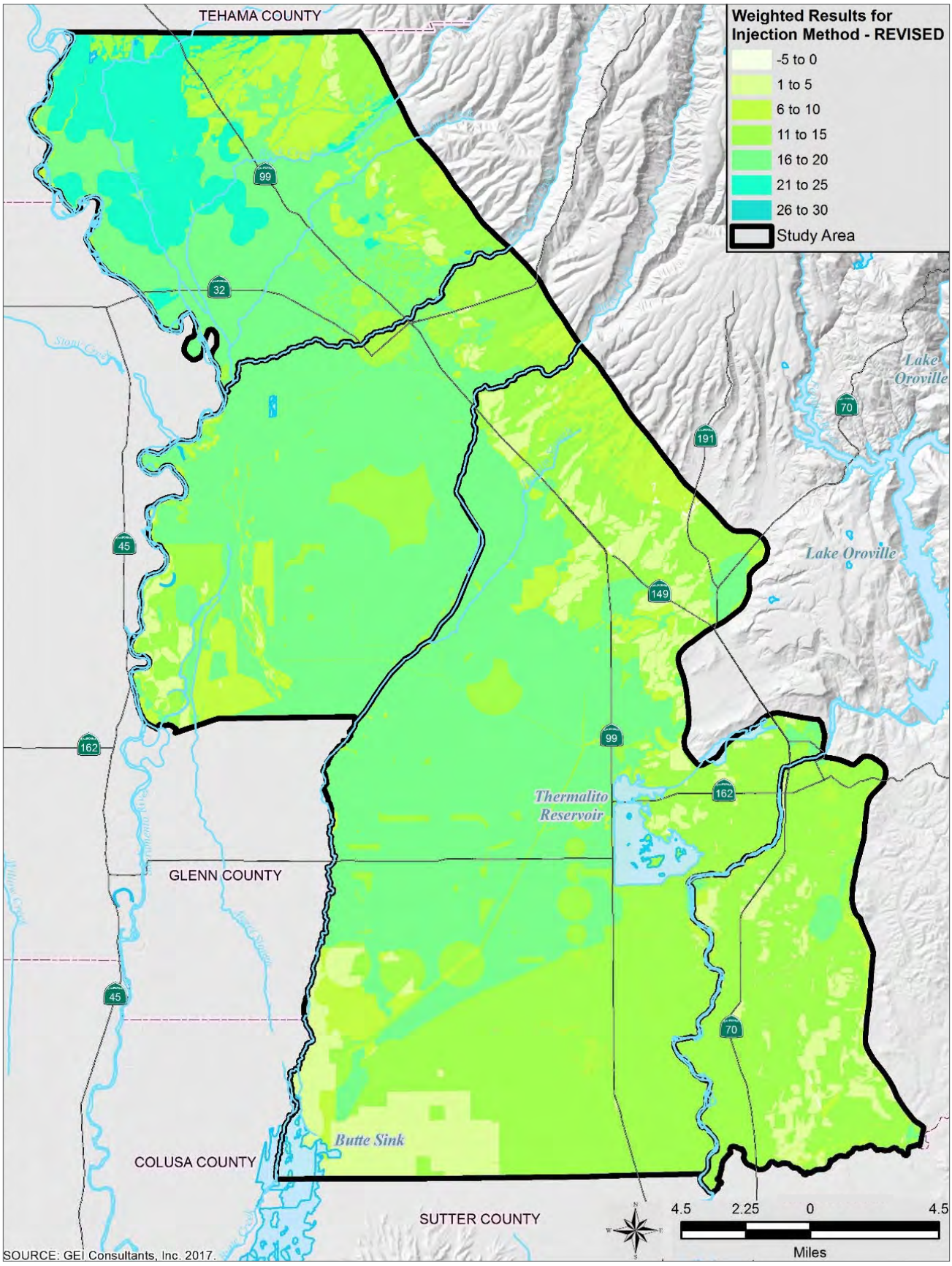
Recharge Pond Constraints Mapping



Source: GEI Consultants, Evaluation of Restoration and Recharge Within the Butte County Groundwater Basins, 2018.

Figure 5.10-8

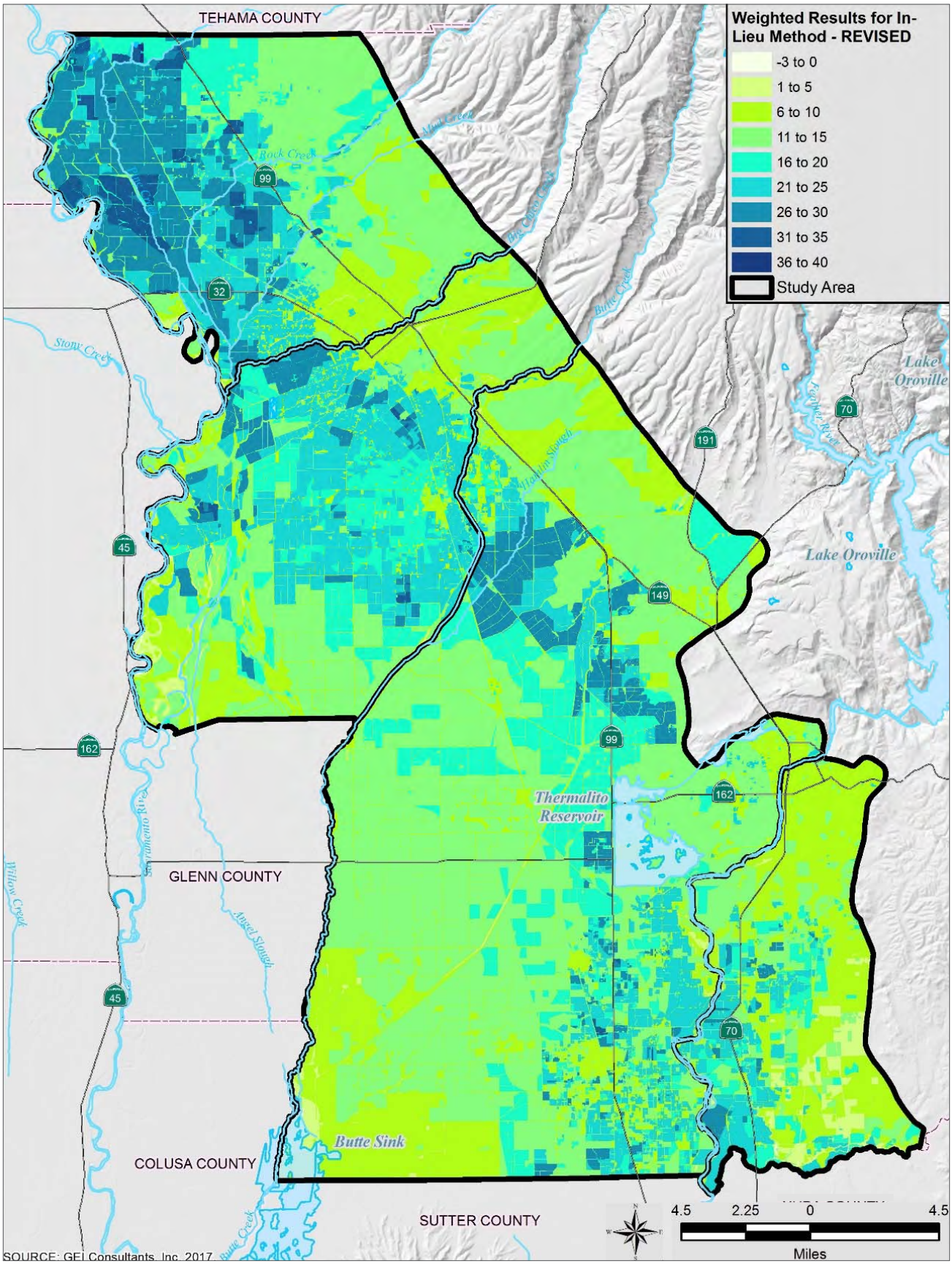
Field Flooding Constraints Map



Source: GEI Consultants, Evaluation of Restoration and Recharge Within the Butte County Groundwater Basins, 2018.

Figure 5.10-9

Groundwater Injection Constraints Mapping



Source: GEI Consultants, Evaluation of Restoration and Recharge Within the Butte County Groundwater Basins, 2018.

Figure 5.10-10

In-Lieu Recharge Constraints Mapping

Seasonal and Yearly Changes in Groundwater Levels

Change in groundwater storage is most basically dependent on the annual rate of groundwater extraction and the annual rate of groundwater recharge, commonly fluctuating within a given year and from year to year. During periods of drought, groundwater in storage typically declines, and increases during periods of above-normal precipitation. Groundwater in storage declines during the summer as groundwater is extracted for municipal, agricultural and residential use and recovers as extraction slows and seasonal precipitation increases recharge.

The annual spring-to-spring change in groundwater in storage for the Sacramento Valley portion of Butte County was estimated for a 14-year period from 2005 to 2018, a period that included a series of drought years between approximately 2012 and 2016. The analysis found that there was a net decrease in storage of approximately 3,340 thousand acre-feet (TAF), with approximately 2,330 TAF of that during the 2012-2016 drought (DWR 2021b).

Seasonal fluctuation of groundwater levels in the unconfined portion of the aquifer system averages between 3 to 5 feet during years of normal precipitation, and up to 24 feet during periods of drought (Butte County 2016). The annual fluctuation of groundwater levels in the confined or semiconfined portion of the aquifer system averages about 10 feet during periods of normal precipitation and about 20 feet during times of drought. Wells constructed in unconfined parts of the aquifer system tend to show less seasonal fluctuation in groundwater level than those in the lower, confined aquifer system because of the greater interconnection between the shallow groundwater and the surface-water systems and because of differences in the properties of the aquifer material. The areas of greatest decline in groundwater level are areas in the Vina groundwater subbasin where groundwater is extracted for agricultural and/or municipal use during the summer months, including the Durham area and the Cherokee Strip portion of the subbasin. Hydrographs indicate that groundwater levels typically increase during the winter months due to recharge and recovery (when there is less need for groundwater use)

Groundwater hydrographs for monitoring wells near Chico indicate a rather uniform seasonal fluctuation of 8 to 20 feet during normal years (PlaceWorks 2021). During drought years, there tends to be a wider range of fluctuation depending upon the individual well. Wells in the southern portion of the county, in the Butte subbasin, show less seasonal fluctuation than those in the northern county largely because of recharge of the upper aquifer system from applied surface water and limited agricultural use of groundwater from the middle and lower aquifer system in the southern part of the county.

Long-Term Groundwater Level Change

Groundwater level declines of 10 to 20 feet since 2004 have been observed in some areas of the county, primarily in the Vina subbasin, and are likely driven mainly by drought conditions leading to reduced deep percolation (potential recharge) and increased groundwater pumping. A moderate decline of groundwater levels (5 to 8 feet since 2004) is observed in the southwest portion of the Wyandotte Creek subbasin. Pumping estimates suggest that groundwater level declines in these areas may be related more to reduced recharge rather than increased pumping, though the frequency of dry and critically dry years in the past decade has resulted in increased pumping. Pumping appears to be influenced more by interannual precipitation than other factors such as increasing crop acreage or crop shifting over time.

Groundwater Movement

The overall pattern of groundwater movement during spring is southwesterly toward the Sacramento River, although the movement of groundwater varies locally. There are groundwater mounds just south of the Thermalito Afterbay and just west of Hamilton City, associated with the Stony Creek Fan, suggesting recharge from the Afterbay and from deep percolation of surface water. There are isolated areas of groundwater depression under the city of Chico resulting from year-round pumping of groundwater for municipal use.

Development

Groundwater provides about 30 percent of the water supply for urban and agricultural uses in the Sacramento Hydrologic Region and has been developed in both the alluvial basins and the hard rock uplands and mountains. The SGMA requires local agencies in high- and medium-priority basins to cease overdraft and bring their groundwater basins into a balanced state of pumping and recharge. Basins, once implementation plans have been adopted, must reach sustainability by 2040.

In general, well yields range from a hundred to several thousand gallons per minute. In the mountain valleys and basins with arable land, groundwater supplements surface water supplies. Some rural mountain areas of the region are entirely reliant on groundwater for domestic supplies. However, the Paradise area is supplied principally from surface water sources. Table 5.10-5, *Butte County Groundwater Pumping Characteristics (in TAF),* summarizes by subbasin the quantities of groundwater pumped based on a historical average over a 19-year period from 2000 to 2018, with 2018 data—the latest data available—representing current conditions.

TABLE 5.10-5 BUTTE COUNTY GROUNDWATER PUMPING CHARACTERISTICS (IN TAF)

	Vina		Butte		Wyandotte	
Land Use	Historical	Current	Historical	Current	Historical	Current
Agricultural	209,100	185,500	114,800	130,300	39,300	36,200
Urban & Industrial	26,500	20,100	2,300	1,800	700	500
Wetlands	8,000	3,500	25,100	30,700	7,100	6,400
Total	243,500	209,200	142,200	162,800	47,100	43,000

Sources:
Vina Groundwater Sustainability Agency. *Vina Groundwater Subbasin – Groundwater Sustainability Plan*. December 15, 2021.
Butte Subbasin Groundwater Advisory Board. *Butte Subbasin Groundwater Sustainability Plan*. January 2022.
Wyandotte Creek Groundwater Sustainability Agency. *Wyandotte Creek Groundwater Subbasin – Groundwater Sustainability Plan*. December 2021.
Butte County Department of Water Resource and Conservation. *Butte County Water Inventory and Analysis*. June 2016.
Note:

- Historical – 2000 to 2018. Current – 2018.
- Mountain and Foothill Inventory Units are not depicted due to the relatively insignificant amount of groundwater pumping.
- The Butte subbasin extends into Glenn and Colusa Counties and therefore represents a greater amount of groundwater pumping than may necessarily occur in Butte County alone.

There were over 17,500 wells in Butte County as of 2016. Table 5.10-6, *Number of Wells by Inventory Unit and Inventory Subunit,* shows the numbers of wells by type, inventory unit, and inventory subunit throughout the county.

TABLE 5.10-6 NUMBER OF WELLS BY INVENTORY UNIT AND INVENTORY SUBUNIT

Inventory Unit	Domestic Wells	Irrigation Wells	Municipal Wells	Monitoring Wells	Other Wells	Totals
Vina	2,297	651	83	211	266	3,508
West Butte	1,471	751	70	432	290	3,014
East Butte	1,799	96	74	202	280	3,151
North Yuba	587	189	25	143	3	1,037
Foothill	3,437	86	37	130	132	3,822
Mountain	2,885	33	30	12	62	3,022
Total County	12,476	1806	319	1130	1033	17,554

Source: Butte County Water Inventory & Analysis. June 2016.
Note: Municipal includes wells classified Municipal and Public.

Monitoring

Groundwater level monitoring in the Sacramento Valley portion of Butte County is conducted by a number of private and public agencies, though historically the Department of Water Resources (DWR) has maintained the most comprehensive, long-term groundwater level monitoring grid. Since 1997, Butte County and DWR have coordinated groundwater level monitoring efforts through the work of the Butte County Department of Water and Resource Conservation (BCDWRC).

A key component of the County's groundwater monitoring efforts was the adoption in 1996 of the Groundwater Conservation Ordinance, which was codified as Chapter 33 of the Butte County Code. The chapter calls for a monitoring network to be established that defines monitoring parameters to facilitate a greater understanding of the subsurface aquifer, including groundwater elevations, groundwater quality, and subsidence. Monitoring takes place four times per year at 128 well locations, with shared responsibility for monitoring of groundwater levels by DWR and BCDWRC. Approximately, sixty other municipal groundwater wells in the county are monitored by California Water Service at locations in Chico and Oroville (Butte County 2021c).

The County collaborates with agricultural irrigation districts supplied by surface water that also conduct monitoring programs. The Richvale Irrigation District approved the purchase of a continuous recorder to install on a well within its district (PlaceWorks 2021). The County also coordinates with representatives of the Western Canal Water District, which has independently conducted water level monitoring since the summer of 1994.

Water Quality

The BCDWRC manages and conserves water and other resources for the citizens of Butte County by:

- Protecting groundwater through some of the strongest policies and programs in California.
- Monitoring and evaluating groundwater conditions to track trends in groundwater elevation, water quality, and subsidence.
- Supporting sustainable water supplies for the long-term health of communities, economy, and environment.
- Advocating for the preservation of Area of Origin statutory protections and other established and surface water rights.
- Working cooperatively throughout the region.
- Advaning education.

Groundwater temperature affects chemical reactions that may occur. Additionally, considerable changes in temperature could be an indication of other source waters migrating into the aquifer system, such as stream seepage or flow from a different aquifer system.

Water with a low pH can be acidic, naturally soft, and corrosive, which can leach metals from pipes and fixtures and cause staining of clothes, sinks, and drains. High pH drinking water does not pose a health risk but can cause buildup of scale in plumbing and reduced water heater efficiency. The EPA has set secondary drinking water standards (i.e., unenforceable guidelines regulating contaminants that may cause cosmetic effects) for pH, which are between 6.5 and 8.5.

Electrical conductivity measures the ability of a solution, such as water, to conduct an electrical current due to the presence of ions. The EPA has set secondary standards of less than 900 and 700 microsiemens per centimeter for drinking and agricultural water, respectively.

While the Basin Management Objectives Program was discontinued on January 31, 2022, Butte County will continue water quality monitoring to evaluate for evidence of saline intrusion as required by the Groundwater Conservation Ordinance and described by the relevant Groundwater Sustainability Plans listed in the regulatory section, above.

Groundwater Contamination

There are two large groundwater contamination plumes in Butte County, both in the Chico area: the Central Plume and the Southwest Plume. Both of these plumes originated from former dry cleaners and involve perchloroethylene (PCE) groundwater contamination. Other groundwater contaminants of concern in Butte County include arsenic, chromium, copper, dioxin, and polynuclear aromatic hydrocarbons (DTSC 2021).

The Southwest Plume extends about two miles in length and seven blocks in width in the southwest portion of Chico. In 1991, 14 private wells were shut down due to PCE contamination. In 1992, a carbon treatment unit was installed in Well 46 near the center of the plume. At the initial installation, groundwater samples showed PCE concentrations as high as 38 parts per billion (ppb), which is significantly higher than California

Department of Public Health Maximum Contaminant Level for Drinking Water of 5 ppb (CDPH 2018); recent raw groundwater samples averaged concentrations of approximately 10 ppb, and samples of treated water detected no PCE. Treatment is expected to continue.

The Central Plume is the largest groundwater plume in Butte County, measuring approximately 1 by 1.5 miles in size and located in Chico's downtown area. PCE concentrations have been as high as 2,900 ppb, causing two public wells to be closed by the California Water Service Company in 1990. In July of 1995, the California Department of Toxic Substances Control installed a well and pump, which continue to remove a significant amount of PCE from the groundwater. A Final Remediation Action Plan for the Central Plume was approved by the Department of Toxic Substances Control on June 21, 2007.

Nitrate contamination of groundwater can be caused by septic tank discharges, as has been documented in the Chico area of Butte County. A Nitrate Action Plan was developed by the County in the mid-1980s, later superseded by the Nitrate Compliance Plan, which was adopted by the Board of Supervisors on September 25, 2001. The plan provides for case-by-case evaluation of nonresidential septic systems and recognizes that sewer connection may not be practical or feasible in all cases.

Stormwater

When precipitation falls on the ground, it naturally infiltrates, and when the ground is saturated, water runs off as surface flow. Stormwater in Butte County is currently conveyed through a system of ditches, culverts, and underground storm sewers to regional waterways. Stormwater that falls on impervious surfaces such as roads, driveways and parking lots picks up residual pollution such as oil, sediment, and trash. These materials are then washed into waterways and pollute the rivers and reservoirs of Butte County and other downstream receiving waters. In addition, stormwater runs off impervious surfaces at a faster rate than off of soil or natural surfaces. Increased rates of stormwater runoff can result in hydromodification of downstream waterways through eroded streambanks and deeply cut creek channels.

Flooding Hazards

Floodplains

Butte County has historically been subject to flooding from various rivers and creeks, especially from the Feather River and Sacramento River. The following are the primary areas subject to flooding in Butte County.

- Butte Creek
- Little Chico Creek
- Little Chico Creek Diversion
- Mud Creek
- Ruddy Creek and Ruddy Creek Tributary
- Sycamore Creek
- Wyman Ravine and Tributaries

- Comanche Creek
- Butte Basin Overflow area for the Sacramento River

Flooding has also historically occurred in low-lying areas, including Rock Creek and Keefer Slough, which have flooded several times in recent decades. These floods have inundated State Routes 99 and 32 as well as several county roadways and flooded residential and agricultural land near North Chico and the community of Nord. The Richvale area, which includes rice research grounds, rice storage, and chemical storage facilities, is also subject to flooding from the Dry Creek/Cherokee Canal. Though the risk of flood hazards has lessened in these areas due to State and federal flood control projects, facilities are still in need of improvement, and flooding is still a major issue in Butte County.

FEMA mapping of flood hazards for all of Butte County has been completed with the most accurate and up-to-date information derived from the August 2017 FIRM mapping.

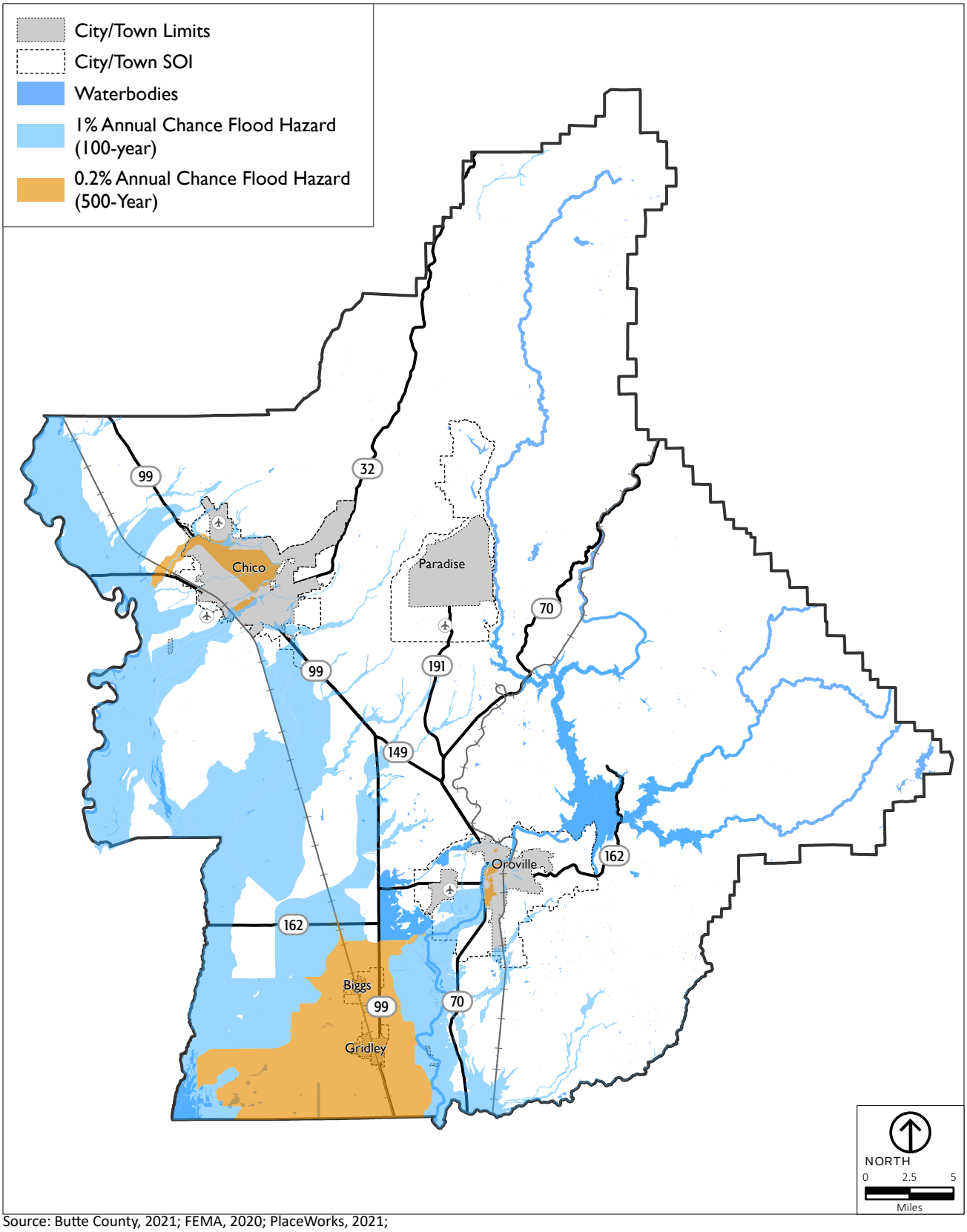
Identified FEMA flood hazard zones in the county, as mapped in the 2017 FIRM under the countywide mapping program, are shown in Figure 5.10-11, *FEMA Flood Zones*. Areas that are subject to flooding are indicated by a series of alphabetical symbols, indicating anticipated exposure to flood events:

- ZONE A: Subject to 100-year flooding with no base flood elevation determined. Identified as an area that has a one percent chance of being flooded in any given year.
- ZONE AE: Subject to 100-year flooding with base flood elevations determined.
- ZONE AH: Subject to 100-year flooding with flood depths between one and three feet being areas of ponding with base flood elevations determined.
- ZONE AO: Subject to 100-year flooding with flood depths between one and three feet being subject to sheet flow on sloping terrain with average depths determined.
- "SHADED ZONE X": Subject to 500-year flooding. Identified as an area that has a 0.2 percent chance of being flooded in a given year.

FEMA mapping provides important guidance for the County in planning for flooding events and regulating development within identified flood hazard areas.

Dam Safety

As of 2021, there are 24 dams in Butte County under the jurisdiction of the California Department of Water Resources Division of Safety of Dams (DSD). An additional 16 dams in Plumas County and Shasta County have dam failure inundation zones that reach Butte County. Out of all 40 dams, 19 are earth-filled embankments and the others are 6 gravity concrete dams, 6 variable radius concrete arch dams, 6 rock embankment dams, and 3 hydraulic fill dams. The dams function in a variety of service capacities for the county and the State, including irrigation, recreation, stock watering, power production, and municipal water supply. The reservoirs contained by these dams range in size from 76 acre-feet to 4,552,000 acre-feet.



Source: Butte County, 2021; FEMA, 2020; PlaceWorks, 2021;

Figure 5.10-11

FEMA Flood Zones

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DSD personnel inspect dams under their jurisdiction each year. The DSD has also evaluated the seismic safety of the dams at Lake Wyandotte, Lost Creek, and Round Valley. As a result of the study done for Lake Wyandotte, the spillway was lowered to contain the reservoir in the event of dam lowering in an earthquake. Lost Creek dam personnel submitted their study and are in the process of studying several faults of special concern. Round Valley has also submitted a study, which found the dam in compliance with earthquake standards. The main focus of this study was correcting seepage. According to the area engineer for the DSD, this problem has been corrected (Butte County 2021a).

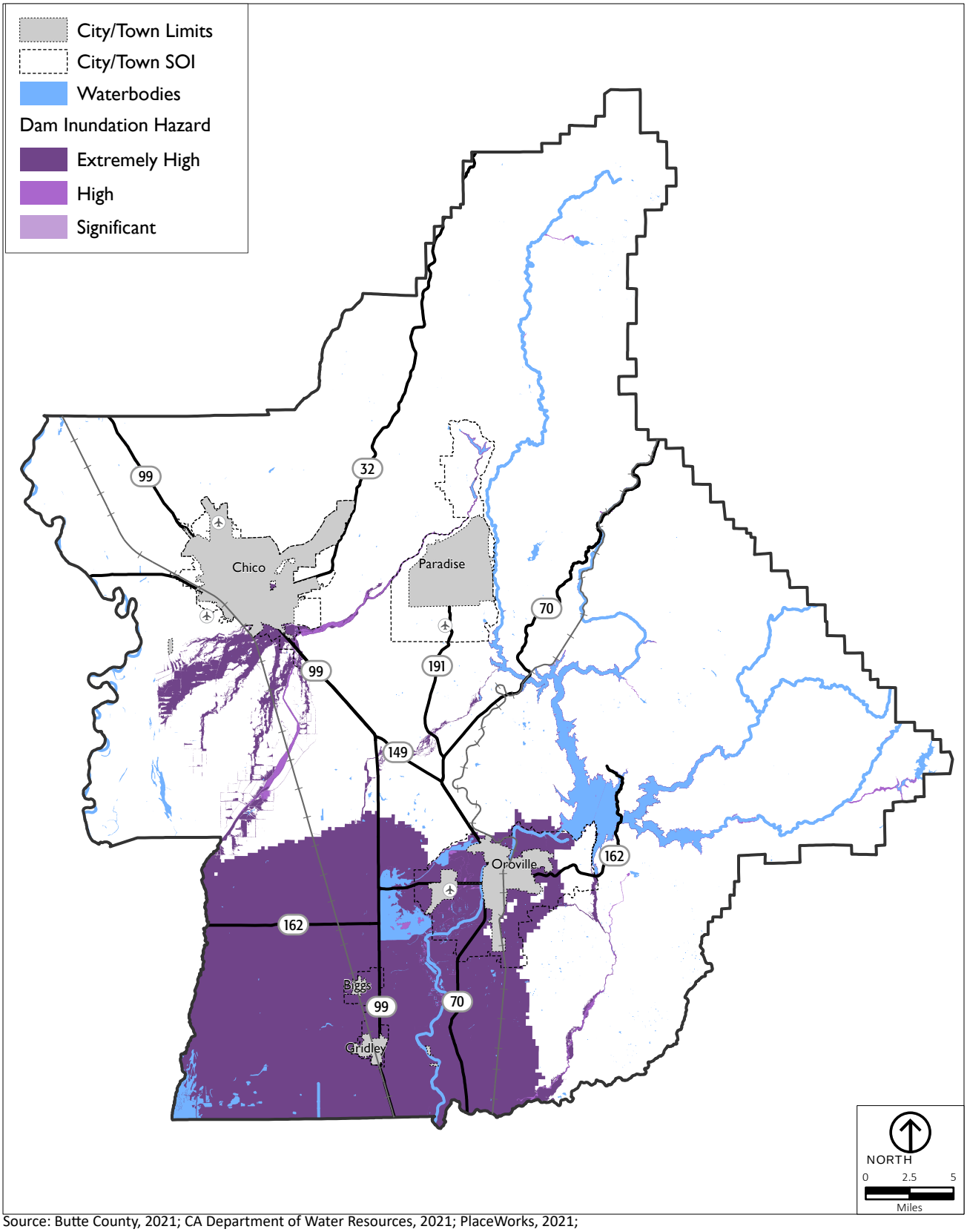
In 1992, Harlan Tate Associates studied Magalia Dam and concluded that the upstream slope of the dam had inadequate stability under seismic loading conditions. As of 2003, the water level in the reservoir was lowered 25 feet due to seismic stability concerns. The County undertook preliminary engineering on a project to widen the skyway, an elevated walkway, across Magalia Dam. The Paradise Irrigation District's preferred alternative for the widening project involves stabilizing the dam and would permit the restoration of the design water level behind Magalia Dam. An environmental impact report and project design were approved in 2005, but the project was not completed due to a lack of funding (Butte County 2021a).

The DSD also identified an additional safety hazard at the Lake Madrone dam. The spillway is below the minimum design standard. This means it has been certified as safe for a flood expected to recur once every 500 years, but could fail or overflow in the event of a larger flood, such as the one expected to recur once every 1,000 years (the design standard). The design standard otherwise depends on construction type, terrain, seismic features in the area, and habitat (human and otherwise) in the downstream flood zone. Currently, the reservoir is under court order to increase dam spillway capacity. According to the DSD area engineer, the Lake Madrone Water District continues to defy a court order to correct its deficiencies; DSD is seeking further legal remedies to obtain compliance and correct this problem. Of the remaining dams, Kunkle is typical of several dams whose use has been restricted to a particular storage level. The DSD believes these dams are safe at a particular fill level and has restricted their use to that level or lower.

In 2017 a heavy rainstorm caused flooding that damaged the main spillway of Oroville Dam on February 7. This caused DWR to stop the flow into the main spillway. The rain fell for several more days, causing the lake level to rise and flow over the emergency spillway, even when the main spillway was reopened to quickly drain the lake. The emergency spillway could not handle all the water, causing erosion to undermine the concrete weir. An evacuation order was given on February 12 for those living directly in the inundation zone, totaling approximately 188,000 people. Although no collapse occurred, the water damaged the main spillway and eroded the bare slope of the emergency spillway. Following the February 2017 event, DWR initiated the Oroville Dam Safety Comprehensive Needs Assessment to assess risks associated with the Oroville Dam facilities and identify dam safety and operational needs. DWR and FEMA funded $1.1 billion in repairs to both the main spillway and emergency spillway. By 2018, the main spillway was fully reconstructed to final design and the emergency spillway was completed. Additional structures were added to the facilities to prevent uphill erosion if the emergency spillway is ever used again (Butte County 2021a).

Inundation maps have been required since 1972, following the 1971 San Fernando Earthquake and near failure of the Lower Van Norman Dam. Inundation maps show areas that lie within the potential dam failure inundation zone. All inundation maps for Butte County are on file with the DSD. Six dams do not have maps on file, and they have been requested. Two are regulated by the Federal Energy Regulatory Commission, but inundation maps are assumed to exist for them.

Figure 5.10-12*, Dam Inundation Areas,* depicts the major dam inundation areas in Butte County as they pertain to the Oroville, Whiskeytown, Lake Almanor, and Shasta dams.



Source: Butte County, 2021; CA Department of Water Resources, 2021; PlaceWorks, 2021;

Figure 5.10-12

Dam Inundation Areas

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5.10.2 STANDARDS OF SIGNIFICANCE

The proposed project would result in a significant hydrology and water quality impact if it would:

1. Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality.
2. Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin.
3. 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:
    i. Result in substantial erosion or siltation on- or off-site;
    ii. Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site;
    iii. 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
    iv. Impede or redirect flood flows.
4. Risk release of pollutants due to project inundation if in a flood hazard, tsunami, or seiche zones.
5. Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan.
6. In combination with past, present, and reasonably foreseeable projects, result in cumulative impacts with respect to hydrology and water quality.

5.10.3 PROPOSED GENERAL POLICIES

The following are relevant policies of the Butte County General Plan Update that may contribute to the protection of water resources as a result of implementation of the proposed project.

Water Resource Element

- W-P1.1: County planning and programs shall be integrated with other watershed planning efforts, including best management practices, guidelines, and policies of the Central Valley Regional Water Quality Control Board (CVRWQCB) and local Groundwater Sustainability Plans.
- W-P1.2: The County shall cooperate with state and local agencies in efforts to identify and eliminate or minimize all sources of existing and potential point and non-point sources of pollution to ground and surface waters, including, but not limited to, illegal cannabis grows, burn scars, groundwater recharge, leaking fuel tanks, discharges from storm drains, auto dismantling, dump sites, sanitary waste systems, parking lots, roadways, and logging and mining operations.
- W-P1.4: Where appropriate, new development shall be Low-Impact Development (LID) that minimizes impervious area, minimizes runoff and pollution, and incorporates best management practices.

- W-P2.9: Applicants for new major development projects, as determined by the Department of Development Services, shall demonstrate adequate water supply to meet the needs of the project, including an evaluation of potential cumulative impacts to surrounding groundwater users and the environment in accordance with local Groundwater Sustainability Plans.*
- W-P3.1: Groundwater transfers and substitution programs shall be locally regulated to protect the sustainability of the County's economy, communities, and ecosystems.
- W-P3.2: The County shall protect groundwater recharge and groundwater quality when considering new development projects.*
- W-P5.2: The County shall coordinate with the local Resource Conservation District, the Natural Resource Conservation Service, the Northern Sacramento Valley and Upper Feather River Integrated Water Management groups, local Groundwater Sustainability Agencies, and local special districts to ensure consistent and effective water conservation measures and messaging.
- W-P5.4: Opportunities to recover and uses treated wastewater for beneficial purposes shall be promoted and encouraged.
- W-P6.1: New development projects shall identify and adequately mitigate their water quality impacts from stormwater runoff.*
- W-P6.2: The use of permeable surfaces and rainwater catchment/retention systems shall be allowed and encouraged to enhance groundwater recharge.
- W-P8.2: The County shall coordinate with local water suppliers to provide water to residents impacted by drought through such means as water filling stations, water storage tanks at homes, and coordination with water haulers.

Health and Safety Element

- HS-P2.1: The County shall coordinate with federal, state, and local agencies to maintain and improve capacity of local and regional flood control systems, and to ensure a regional approach to addressing flood hazards.
- HS-P2.2: The County supports the efforts of private landowners and public agencies to maintain existing flood management facilities.
- HS-P2.5: The lowest floor of any new construction or substantial improvement within 100-year floodplains, as shown in Figure HS-1 or the most current maps available from FEMA, shall be elevated 1 foot or more above the 100-year flood elevation. (County Flood Ordinance Sec. 26-22).*
- HS-P2.6: The County shall make specific findings consistent with the California Department of Water Resources Urban Level of Flood Protection Criteria within the 200-year floodplain, prior to approval of a development agreement, tentative or parcel map, a subdivision or discretionary permit or other discretionary entitlement, or any ministerial permit that would result in the construction of a new residence. If a proposed development is within the Urban Level of Flood Protection Criteria, the County Flood Administrator must make a finding to ensure flood protection facilities are adequate and require new flood protection measures, as applicable.

- HS-P3.1: Watersheds shall be managed to minimize flooding by minimizing impermeable surfaces, retaining or detaining stormwater, and controlling erosion.
- HS-P3.2: Applicants for new development projects shall provide plans detailing existing drainage conditions and specifying how runoff will be detained or retained on-site and/or conveyed to the nearest drainage facility and shall provide that there shall be no increase in the peak flow runoff to said channel or facility.*
- HS-P3.3: All development projects shall include stormwater control measures and site design features that prevent any increase in the peak flow runoff to existing drainage facilities.*
- HS-P3.4: Developers shall pay their fair share for construction of off-site drainage improvements necessitated by their projects.
- HS-P3.5: The County shall require redevelopment after flooding to meet current California Building Standards Code and flood-related Code of Ordinances requirements to reduce future vulnerabilities to flood hazards through site preparation, layout design, and flood-proofing building design and materials.

5.10.4 IMPACT DISCUSSION

HYDRO-1	The project would not violate water quality standards or waste discharge requirements or otherwise degrade surface water or groundwater.

General Plan 2040

Development allowed by the General Plan Update could degrade water quality in Butte County. The intensification of land uses in the county could degrade water quality through increases in non-point-source pollution from new impervious surfaces, construction activity that increases erosion and sediment loads in downstream receiving waters, increased pollutants from additional traffic, and increased use of chemicals and other pollutants from various land uses allowed by the General Plan Update.

However, the proposed policies in the General Plan Update address water quality standards. Water Resource Element Policy W-P1.1 states that County Planning and programs shall be integrated with other watershed planning efforts, including best management practices, guidelines, and policies of the Central Valley RWQCB and local Groundwater Sustainability Plans. Policy W-P1.2 states that the County shall cooperate with state and local agencies in efforts to identify and eliminate or minimize all sources of existing and potential point and non-point sources of pollution to ground and surface waters. Policy W-P1.4 states that new development shall be low-impact development that minimizes impervious area, runoff and pollution, and incorporates BMPs.

The General Plan policies discussed above, and other State and federal regulations, would reduce water quality impacts to a less than significant level.

Level of Significance Before Mitigation: HYDRO-1 would be less than significant.

Mitigation Measures

No mitigation measures are required.

Upper Ridge Community Plan

As discussed in Chapter 3, *Project Description,* the Upper Ridge Community Plan would increase development potential in the Upper Ridge community by redesignating 28 parcels from Retail and Office to Mixed-use land uses in the Old Magalia and Magalia Center neighborhoods. Potential future development in the Upper Ridge community would increase the number of residents in the area. With the implementation of the proposed policies, listed above, as well as other state and federal regulations, impacts would be less than significant.

Level of Significance Before Mitigation: HYDRO-1 would be less than significant.

Mitigation Measures

No mitigation measures are required.

HYDRO-2	The project would not substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin.

General Plan 2040

Some urban development and agricultural uses allowed by the General Plan Update would use groundwater. In addition, new construction could include impervious surfaces, which would decrease the area available for rainfall to infiltrate the ground and recharge the underlying water table.

However, the General Plan Update contains the following policies designed to maintain groundwater supplies and sustain groundwater resources:

- Policy W-P1.1 requires that the County planning and programs be integrated with other watershed planning efforts, including BMPs, guidelines, and policies of the Central Valley RWQCB and local Groundwater Sustainability Plans.
- Policy W-P2.9 requires that applicants for new major development projects demonstrate adequate water supply to meet the needs of the project, including an evaluation of potential cumulative impacts to surrounding groundwater users and the environment.
- Policy W-P3.1 requires that groundwater transfers and substitution programs be locally regulated to protect the sustainability of the county's economy, communities, and ecosystems.
- Policy W-P3.2 requires that the County protect groundwater recharge and groundwater quality when considering new development.

The General Plan policies discussed above, and State and federal regulations, would reduce groundwater impacts to a less than significant level.

Level of Significance Before Mitigation: HYDRO-2 would be less than significant.

Mitigation Measures

No mitigation measures are required.

Upper Ridge Community Plan

As discussed in Chapter 3, *Project Description,* the Upper Ridge Community Plan would increase development potential in the Upper Ridge community by redesignating 28 parcels from Retail and Office to Mixed-use land uses in the Old Magalia and Magalia Center neighborhoods. Potential future development in the Upper Ridge community would increase the number of residents in the area. With the implementation of the proposed policies, listed above, as well as other state and federal regulations, impacts would be less than significant.

Level of Significance Before Mitigation: HYDRO-2 would be less than significant.

Mitigation Measures

No mitigation measures are required.

HYDRO-3	The project would not result in significant impacts associated with the substantial alteration of 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 that would: i) result in substantial erosion or siltation on- or off-site; ii) substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site, iii) 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 iv) impede or redirect flood flows.

General Plan 2040

Erosion, Siltation, and On- and Off-Site Flooding

Alterations to drainage patterns during and following construction allowed by the General Plan Update have the potential to result in construction-related increased runoff and erosion problems. In addition, increased stormwater runoff resulting from increased impervious surfaces can create erosive velocities and higher bank shear stress, which can ultimately cause bank and bed erosion and/or sedimentation in drainages and streams, as well as create nuisance flooding in areas without adequate drainage facilities. Minor increases in tributary flows can also exacerbate creek bank erosion and/or cause destabilizing channel incision by

altering the so-called "channel-forming" flow. Bank instability and bank failure often occur in urban drainage systems where the channel-forming flow has been substantially altered.

However, the General Plan Update includes the following policies from the Health and Safety Element that would reduce impacts to erosion and flooding:

- Policy HS-P3.1 states that watersheds shall be managed to minimize flooding by minimizing impermeable surfaces, retaining or detaining stormwater, and controlling erosion.
- Policy HS-P3.2 states that applicants for new development shall provide plans detailing existing drainage conditions and specifying how runoff will be detained or retained on-site and/or conveyed to the nearest drainage facility and shall provide that there shall be no increase in the peak flow runoff to said channel or facility.
- Policy HS-P3.3 states that all development projects shall include stormwater control measures and site design features that prevent any increase in the peak flow runoff to existing drainage facilities.
- Policy HS-P3.4 states that developers shall pay their fair share for construction of off-site drainage improvements necessitated by their projects.

The General Plan policies discussed above, and State and federal regulations, would reduce drainage impacts to a less than significant level.

Stormwater Drainage and Runoff

Development allowed by the General Plan Update would result in more impervious surfaces, thereby increasing stormwater runoff to levels that could exceed the capacity of existing or planned stormwater drainage systems.

However, the General Plan Update includes the following policies from the Water Resource and Health and Safety Element that would reduce impacts to stormwater drainage: Policy W-P6.1 states that new development projects shall identify and adequately mitigate their water quality impacts from stormwater runoff, and Policy HS-P3.3 states that all development projects shall include stormwater control measures and site design features that prevent any increase in the peak flow runoff to existing drainage facilities.

The General Plan policies discussed above, in conjunction with the County's Stormwater Management Program and Stormwater Management and Discharge Control Ordinance would reduce stormwater capacity impacts to a less than significant level.

Impediment or Redirection of Flooding

Butte County contains areas currently designated as 100-year flood zones, and the General Plan Update land use map allows development within these flood hazard areas. However, the following policies from the Health and Safety Element would reduce impacts to flooding.

- Policy HS-2.1 states that the County shall coordinate with federal, state, and local agencies to maintain and improve capacity of local and regional flood control systems and ensure a regional approach to addressing flood hazards.

- Policy HS-P2.2 states that the County supports the efforts of private landowners and public agencies to maintain existing flood management facilities.
- Policy HS-P2.5 states that the lowest floor of any construction or substantial improvement within 100-year floodplains shall be elevated 1 foot or more above the 100-year flood elevation.
- Policy HS-P2.6 states that the County shall make specific findings consistent within the 200-year floodplain prior to approval for the construction of a new residence.
- Policy HS-P3.1 states that watersheds shall be managed to minimize flooding by minimizing impermeable surfaces, retaining or detaining stormwater and controlling erosion.
- Policy HS-P3.5 states that the County shall require redevelopment after flooding to meet current California Building Standards Code and flood-related Code of Ordinance requirements to reduce future vulnerabilities of flood hazards.

Therefore, although the General Plan Update could allow the placement of structures in the 100-year flood hazard zone, the General Plan Update policies discussed above, in combination with the Butte County Flood Hazard Prevention Ordinance, Butte County Flood Mitigation Plan, and other State and federal regulations, would ensure that the impact of impedance and redirection of flood waters would be less than significant.

Level of Significance Before Mitigation: HYDRO-3 would be less than significant.

Mitigation Measures

No mitigation measures are required.

Upper Ridge Community Plan

As discussed in Chapter 3, *Project Description,* the Upper Ridge Community Plan would increase development potential in the Upper Ridge community by redesignating 28 parcels from Retail and Office to Mixed-use land uses in the Old Magalia and Magalia Center neighborhoods. Potential future development in the Upper Ridge community would increase the number of residents in the area. With the implementation of the proposed policies, listed above, as well as other state and federal regulations, impacts would be less than significant.

Level of Significance Before Mitigation: HYDRO-3 would be less than significant.

Mitigation Measures

No mitigation measures are required.

HYDRO-4	In flood hazard, tsunami, or seiche zones, the proposed project would not risk release of pollutants due to project inundation.

General Plan 2040

Flood Hazards

As indicated above, Butte County contains areas within the 100-year flood zones, and development would be allowed in those areas under the General Plan Update. The General Plan Update includes the following policies that ensure development minimizes potential flood impacts:

- Policy HS-2.1 states that the County shall coordinate with federal, state, and local agencies to maintain and improve capacity of local and regional flood control systems and ensure a regional approach to addressing flood hazards.
- Policy HS-P2.2 states that the County supports the efforts of private landowners and public agencies to maintain existing flood management facilities.
- Policy HS-P2.5 states that the lowest floor of any construction or substantial improvement within 100-year floodplains shall be elevated 1 foot or more above the 100-year flood elevation.
- Policy HS-P2.6 states that the County shall make specific findings consistent within the 200-year floodplain prior to approval for the construction of a new residence.
- Policy HS-P3.1 states that watersheds shall be managed to minimize flooding by minimizing impermeable surfaces, retaining or detaining stormwater and controlling erosion.
- Policy HS-P3.5 states that the County shall require redevelopment after flooding to meet current California Building Standards Code and flood-related Code of Ordinance requirements to reduce future vulnerabilities of flood hazards.

With the implementation of the General Plan Update policies and federal, state, and local regulations, future development pursuant to the General Plan Update would not increase flood hazards associated with flood zones, and impacts would be less than significant.

Tsunami

Butte County is over 90 miles northeast of the Pacific Ocean and is well outside of the tsunami inundation zone. No impacts would occur.

Seiches

Released water from a seiche would result in much smaller footprints that the dam inundation zones, and the probability of this occurring is low. While seiches have not been observed in Lake Oroville, it could potentially occur, most likely from a landslide or seismically induced landslide from the hills around the lake, which could displace a mass of soil and bedrock that would fall or flow downslope into the lake. This would cause a seiche wave. Similar to existing development, nearby residential uses would be set back from the existing recreation and conservation uses at Lake Oroville and would be elevated above the lake and outside of areas that would likely be affected by a seiche. Therefore, impacts would be less than significant.

Level of Significance Before Mitigation: HYDRO-4 would be less than significant.

Mitigation Measures

No mitigation measures are required.

Upper Ridge Community Plan

As discussed in Chapter 3, *Project Description,* the Upper Ridge Community Plan would increase development potential in the Upper Ridge community by redesignating 28 parcels from Retail and Office to Mixed-use land uses in the Old Magalia and Magalia Center neighborhoods. Potential future development in the Upper Ridge community would increase the number of residents in the area. With the implementation of the proposed policies, listed above, as well as other state and federal regulations, impacts would be less than significant.

Level of Significance Before Mitigation: HYDRO-4 would be less than significant.

Mitigation Measures

No mitigation measures are required.

HYDRO-5	The project would not conflict with or obstruct implementation of a water quality control plan or groundwater sustainable plan.

General Plan 2040

Impact HYDRO-1 details measures in place to ensure future development has a less than significant impact on surface and groundwater quality. These measures would also ensure that future development does not obstruct or conflict with the implementation of a water quality control plan or groundwater sustainable plan. As discussed in Impact HYDRO-2, the proposed project would not substantially decrease groundwater supplies or interfere substantially with groundwater recharge. As such, impacts would be less than significant.

Level of Significance Before Mitigation: HYDRO-5 would be less than significant.

Mitigation Measures

No mitigation measures are required.

Upper Ridge Community Plan

As discussed in Chapter 3, *Project Description,* the Upper Ridge Community Plan would increase development potential in the Upper Ridge community by redesignating 28 parcels from Retail and Office to Mixed-use land uses in the Old Magalia and Magalia Center neighborhoods. Potential future development in the Upper Ridge community would increase the number of residents in the area. With the implementation of the proposed policies, listed above, as well as other state and federal regulations, impacts would be less than significant.

Level of Significance Before Mitigation: HYDRO-5 would be less than significant.

Mitigation Measures

No mitigation measures are required.

5.10.5 CUMULATIVE IMPACTS

HYDRO-6	The proposed project, in combination with past, present, and reasonably foreseeable projects, would result in less-than-significant cumulative impacts with respect to hydrology and water quality.

As development proceeds within Butte County, impervious surfaces and the amount of pollutants will increase, impacting surface and groundwater quality. Additional population would also be at risk of flooding. However, cumulative water quality impacts in Butte County and the surrounding region would be reduced by implementing best management practices in accordance with the NDPES program, and implementation of the water quality policies contained in the General Plan Update would further reduce Butte County's contribution to cumulative water quality impacts. With the General Plan Update policies and actions in place and continued compliance with the NPDES and other RWQCB regulations, the General Plan Update would not have a significant cumulative water quality impact.

The General Plan Update would minimize potential drainage and flooding impacts. Although the proposed project would contribute to development in levee and dam inundation areas, similar to existing development, nearby residential uses would be set back from the existing recreation and conservation uses at Lake Oroville and would be elevated above the lake and outside of areas that would likely be affected by a seiche. Therefore, cumulative impacts are considered less than significant.

Level of Significance Before Mitigation: HYDRO-6 would be less than significant.

Mitigation Measures

No mitigation measures are required.

5.10.6 REFERENCES

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5.11 LAND USE AND PLANNING

This chapter describes the regulatory framework and existing conditions in the Plan Area related to land use and planning, and the potential impacts of the project on land use and planning.

5.11.1 ENVIRONMENTAL SETTING

5.11.1.1 REGULATORY FRAMEWORK

This section summarizes key federal, State, County, and municipal plans, policies, and regulations pertaining to land use in Butte County.

Federal Regulations

United States Forest Service Plans

The United States Forest Service is a major landowner in Butte County. Its holdings total 135,427 acres in the county, including portions of Plumas National Forest and Lassen National Forest, which are displayed on Figure 5.11-1, *Federal and State Lands*. The Forest Service's Land and Resource Management Plans (RMPs) for Plumas National Forest (1988) and for Lassen National Forest (1993, as amended) guide all Forest Service activities on these lands.

Bureau of Land Management Plans

The United States Bureau of Land Management (BLM) owns 16,832 acres in Butte County, consisting of scattered foothill lands, displayed in Figure 5.11-1. BLM completed a draft RMP in 1990, and the final Record of Decision was completed in June 1993. The BLM Redding Field Office is currently in the process of developing a new RMP, called the Northwest California Integrated Resource Management Plan, which, when completed, would replace the existing 1993 Redding RMP (BLM 2017).

The existing RMP is a 15-year strategy on where and how BLM will administer public lands within the Redding Resource area, which includes Butte County. The RMP has allowed for shifts in BLM public land ownership patterns of scattered parcels to combine into larger aggregates of accessible and useful public lands. The majority of land sales, exchanges, and interjurisdictional transfers between other agencies and organizations have taken place in Tehama and Trinity Counties. The goal of the RMP is to ensure that land sales, exchanges, and transfers meet the BLM's long-term objectives for land preservation.

State Regulations

The State of California manages significant land resources in the county through a variety of planning documents. State-owned lands, displayed in Figure 5.11-1, *Federal and State Lands,* include the Lake Oroville State Recreation Area (42,000 acres), Thermalito Forebay/Afterbay (5,230 acres), Oroville Wildlife Area (5,500 acres), Gray Lodge Wildlife Area (8,375 acres), Table Mountain Ecological Reserve (7,100 acres), Sacramento River Wildlife Area, and over 750 miles of rivers and streams. Plans for State-owned lands include the following:

- Lake Oroville State Recreation Area General Plan addresses resource management, site development, and the provision of recreational facilities at the Lake Oroville State Recreation Area by the State Parks Department.
- State Water Plan Update 2009 addresses land use, planning, and operations management by the Department of Water Resources for the State Water Project, which includes the Thermalito Forebay/Afterbay.
- Land Management Plans for wildlife areas and ecological reserves.

Local Regulations

Butte County General Plan 2030

The following policies are included in the existing General Plan regarding land use. The numbering is from the existing General Plan and therefore may not be consecutive.

Land Use Element

- Goal LU-1 Continue to uphold and respect the planning principles on which the County's land use map is based.
    - LU-P1.2 The County shall promote economic development and job generating industry in unincorporated areas.
    - LU-P1.3 The County shall minimize potential conflicts between agricultural and urban uses.
    - LU-P1.7 The County shall support and coordinate with the planning efforts of the incorporated municipalities.
    - LU-P1.8 The County shall support community planning efforts by and for unincorporated communities.
    - LU-P1.9 The County shall allow commercial services and retail within unincorporated communities.
    - LU-P1.10 The County shall limit development in foothill and mountain areas that are constrained by fire hazards, water supply, migratory deer habitat, or infrastructure.
- Goal LU-2 Provide for orderly, well-planned, and balanced growth that maintains private property rights.
    - LU-P2.2 Economic use and value of private property shall be maintained.
    - LU-P2.3 The County shall support planning efforts in unincorporated communities by providing knowledge, time and materials to community efforts.
    - LU-P2.4 As resources become available, the County shall engage willing and interested unincorporated communities in community planning processes to set a community vision and develop Area Plans. Urban growth boundaries, community boundaries and spheres of influence may be developed as part of such processes.

- LU-P2.5 The County shall promote clustered development in rural areas.

- Goal LU-3 Create communities where there is a sense of well-being where families and neighbors can socialize, interact, and play.
  - LU-P3.1 The County shall encourage connectivity and a sense of community in all newly developed neighborhoods.
  - LU-P3.2 Newly-developed neighborhoods shall include parks and recreation facilities. Sidewalks, bike paths, and other routes shall provide circulation to surrounding areas.
  - LU-P3.3 Newly-developed neighborhoods shall create a safe environment by providing adequate lighting and clearly marked crosswalks.
  - LU-P3.4 The Butte County Sheriff's Office shall continue to support neighborhood watch programs, including programs in commercial areas, so that residents and visitors enjoy a safe and comfortable environment.

- Goal LU-4 Provide high-quality housing in a range of residential densities and types.
  - LU-P4.1 The integrity and stability of existing residential neighborhoods shall be promoted and preserved.
  - LU-P4.2 Residentially-designated land with High Density Residential and Very High Density Residential land use designations shall be developed at or above the minimum density range.
  - LU-P4.3 Generally, higher density housing shall be located along collector and arterial streets and within easy walking distance of public facilities.

- Goal LU-5 Provide adequate land for and promote the development of attractive commercial and industrial areas and uses that provide goods, services, and jobs.
  - LU-P5.2 Industrial and heavy commercial uses shall be grouped into integrated industrial parks.
  - LU-P5.3 New industrial uses shall be designed to avoid adverse impacts to adjacent uses, particularly residential neighborhoods, with respect to, but not limited to, noise, dust and vibration, water quality, air quality, agricultural resources, and biological resources.

- Goal LU-6 Provide adequate land for the development of public and quasi-public uses, as a means to provide necessary public services and facilities in support of existing and new residential, commercial, and industrial land uses.
  - LU-P6.1 The County will encourage school districts and park and recreation districts to locate school sites and parks within or adjacent to existing or planned residential and mixed use neighborhoods.

- LU-P6.2 Specific Plans, Master Plans, Area Plans, Neighborhood Plans or Planned Unit Developments shall designate adequate, appropriately-located land for County, special district, and school district facilities.
- LU-P6.3 New County government buildings and other public and quasi-public uses, such as hospitals, meeting halls, and private schools, shall be located in existing urbanized areas in convenient, central locations that provide maximum access for the maximum number of residents.
- LU-P6.4 Development projects that provide lands for private open spaces, parks, community service facilities, such as places of worship and daycare facilities, and public facilities may be allowed to transfer density to other portions of the site.

- Goal LU-7 Promote public participation in the County's planning processes.
  - LU-P7.2 The public shall be engaged in any process to establish or modify urban growth boundaries.
  - LU-P7.3 Sponsors of new development projects shall have early and frequent communication with affected citizens and stakeholders.

- Goal LU-8 Promote development near existing infrastructure and services, and within already-developed areas.
  - LU-P8.1 Industry shall be located near major transportation facilities.
  - LU-P8.2 The County shall direct projected growth to areas where the appropriate level of transportation infrastructure is or will be available during the planning period.
  - LU-P8.3 Applicants intending to develop sites served by existing public facilities shall be encouraged to develop at the highest allowable density and intensity.
  - LU-P8.4 New industrial development shall be encouraged to locate in existing industrial areas until existing industrial areas have been fully utilized.
  - LU-P8.5 Stores providing goods and services to support daily life in neighborhoods should be located within walking distance to the majority of neighborhoods.

- Goal LU-9 Coordinate land development with provision of new services and infrastructure.
  - LU-P9.2 The County shall balance development densities with the traffic-carrying capacities of existing and proposed circulation plans.
  - LU-P9.3 The County shall work cooperatively with the Local Agency Formation Commission (LAFCO), municipalities and all irrigation districts if annexation of agricultural areas is proposed for urban development to ensure the integrity of irrigation structures that serve off-site landowners.
  - LU-P9.4 Applicants shall provide evidence of adequate infrastructure capacity to serve the projected buildout of proposed development projects.

- LU-P9.5 New development projects shall provide their own infrastructure or tie in to existing infrastructure as it is built.
- LU-P9.6 Large development projects, as determined by the Department of Development Services that may not be served at adequate levels by existing public services (e.g. staffing, equipment and facilities) shall be subject to additional fiscal review before gaining full entitlements to develop. The applicant shall prepare a fiscal impact analysis that identifies any fiscal mitigation measures needed to ensure that the County will be able to maintain adequate service levels and fiscal sustainability.

- Goal LU-11 Effectively coordinate planning efforts with the municipalities.
  - LU-P11.1 The County shall continue to collaborate on planning and building within the municipalities' spheres of influence in order to establish consistent development standards.
  - LU-P11.2 In conjunction with annexation agreements involving residential development, seek to transfer the applicable portion of the County's Regional Housing Needs Allocation (RHNA) to the annexing jurisdiction.

- Goal LU-12 Coordinate planning efforts within the county and region.
  - LU-P12.3 The County shall work closely with the Local Agency Formation Commission to ensure that spheres of influence and land use plans in all areas of the county are supported by the County.
  - LU-P12.4 The County shall coordinate planning efforts with those of special districts and school districts.
  - LU-P12.5 The County shall consider the 2000 Airport Land Use Compatibility Plan in General Plan and Zoning decisions, and shall be consistent with it.
  - LU-P12.6 The County will cooperate to create a broad regional planning authority covering Butte County and its neighboring counties, and identify strategies for coordinated planning in the region.
  - LU-P12.7 The County will work cooperatively with municipalities to establish urban growth boundaries in conjunction with appropriate revenue sharing agreements for annexations.

- Goal LU-13 Plan for growth and protect agriculture in the Chico area through the Chico Area Greenline.
  - LU-P13.3 Recognize the Chico Area Greenline as the boundary between the "Urban Side of the Chico Area Greenline" and the "Agricultural Side of the Chico Area Greenline."
  - LU-P13.5 Except as provided for in Policy LU-P13.4, require that all land use on the Agricultural Side of the Chico Area Greenline consist solely of agricultural land uses as provided by the "Agriculture" and "Agriculture Services" designations.

- LU-P13.6 Guide land uses on the Urban Side of the Chico Area Greenline by the policies of the Land Use Element and the applicable urban land use designation as contained in the Land Use Element.
- LU-P13.8 Accommodate future urban and suburban growth that occurs in the Chico area of Butte County on lands situated in the Urban Side of Chico Area Greenline.

- Goal LU-15 Direct development to existing urbanized areas.
  - LU-P15.1 The County shall prevent scattered development patterns and encourage development in existing urbanized areas, and in particular areas that have access to public services and infrastructure.
  - LU-P15.2 New urban development shall be primarily located in or immediately adjoining already urbanized areas.
  - LU-P15.3 The County shall encourage efficient urban infill development within municipal limits, municipal spheres of influence, and existing unincorporated communities where development can readily be served by public infrastructure facilities.

- Goal LU-17 Identify, coordinate and assist in resolving potential land use conflicts within the Military Operations Areas (MOAs) to ensure that new development is compatible with military operations and to safeguard mission training requirements and support military readiness.
  - LU-P17.2 The County will evaluate the potential impact of new structures proposed within the Military Operations Areas (MOAs) shown in Figure LU-5 to ensure the safety of the residents on the ground and continued viability of military operations within the MOAs.
  - LU-P17.3 The County will utilize the Zoning Ordinance (including but not limited to minor use permits) to require discretionary review of all proposed development projects within the Military Operations Areas (MOAs) shown in Figure LU-5 that may produce height obstructions, glare, smoke, dust, and steam that could impact military operations.
  - LU-P17.4 The County shall coordinate with the military experts to site new structures in a manner that does not significantly impact military readiness. Issues to be considered include light and glare, heat generation, smoke, dust, equipment testing and operation, personnel training, and flight operations.

Economic Development Element

- Goal ED-1 Improve the local economy by diversifying the economy, reducing the unemployment rate, increasing business revenues to the County, and increasing wages.
  - ED-P1.2 The County shall encourage a full range of commercial services at the regional, community and neighborhood levels.

- ED-A1.2 Create a countywide strategy to support the local manufacturing, office, and commercial sectors by improving infrastructure that supports manufacturing, office and commercial development, and promotes airport, highway, and rail development.
- ED-A1.3 Work with the five incorporated municipalities and economic development entities to jointly develop and maintain a countywide inventory of available industrial and commercial land and buildings.

- Goal ED-2 Promote and support the local agricultural economic sector.
  - ED-P2.1 The County shall create and support opportunities to promote and market agricultural products grown or processed within Butte County (such as a Farmers' Market).
  - ED-P2.2 The County shall encourage development of food processing and other facilities that could support production of "value-added" agriculture products from Butte County.
  - ED-P2.3 The County shall promote agritourism, such as through special events and themed "farm trails" and routes within Butte County's agricultural areas.
  - ED-P2.4 The County will support a Community Supported Agriculture (CSA) program if one is developed.
  - ED-P2.5 The County supports existing grower cooperatives in Butte County.
  - ED-P2.6 The County supports programs and projects that would help Butte County farmers provide carbon offsets, if and when new regulations require industries to provide carbon offsets.
  - ED-P2.7 The County supports programs and projects that utilize agricultural by-products for "green" building material production and/or renewable energy production, such as using straw bales for building or converting rice straw to bio-fuels.
- Goal ED-3 Improve the County's fiscal health.
  - ED-P3.3 Major mixed use development projects shall develop non-residential uses concurrent with housing so that revenue- and job-generating uses do not appreciably lag residential development. Each phase of housing shall be accompanied by balanced revenue- and job-generating development.
  - ED-P3.6 Formation of Redevelopment Project Areas or Infrastructure Financing Districts shall be explored where such mechanisms can provide financing tools to help pay for existing development's share of new public improvement costs.

Agriculture Element

- Goal AG-2 Protect Butte County's agricultural lands from conversion to non-agricultural uses.
  - AG-P2.1 The County shall work with the Local Agency Formation Commission (LAFCO) to create and maintain a consistent approach to the conservation of agricultural land

through the designation of reasonable and logical Sphere of Influence (SOI) boundaries.

- AG-P2.2 The County supports private conservation organizations that utilize voluntary conservation easements as a tool for agricultural conservation, continued agricultural use, agricultural supportive uses, tax breaks and similar goals.
- AG-P2.3 Redesignation and rezoning of land designated as Agriculture to an urban designation shall be allowed only when the applicant can demonstrate that the following criteria are met and mitigated:
    a. The lot(s) for which conversion is requested is adjacent to uses other than agriculture or agricultural support uses (e.g. receiving plants, hulling plants).
    b. The conversion will not be detrimental to existing agricultural operations.
    c. The conversion land is adjacent to existing urban infrastructure and conversion will constitute a logical contiguous extension of a designated urban area.
    d. No feasible alternative exists that is less detrimental to agriculture.
    e. Full mitigation of impacts to the extent allowed under the law is provided, including, but not limited to, roads, drainage, schools, fire protection, law enforcement, recreation, sewage and lighting.
- AG-P2.4 As set forth in the Zoning Ordinance, rezoning agricultural land to agricultural zones with lower parcel size restrictions shall be minimized and allowed only if specific criteria are met.
- AG-P2.5 When a request is made for a Conditional Use Permit on a lot(s) with existing agricultural operations, an agricultural maintenance plan to provide for the continuation of existing agricultural activities shall be submitted, in accordance with the Zoning Ordinance. The plan shall be reviewed for comments and conditions by the Agricultural Commissioner and Development Services prior to the Planning Commission hearing on the Conditional Use Permit.
- AG-P2.6 The County shall retain and protect agricultural lands through the use of proactive land use techniques, including, but not limited to, the following:
    a. Clustered development projects, allowing a “clustering” of permitted densities in a compact configuration in order to protect agricultural land.
    b. Density bonuses, permitting increased density on developable land in exchange for protection of agricultural land.

- Goal AG-4 Promote niche and specialty agriculture.
    - AG-P4.1 The County recognizes and supports the role of small farms growing specialty products in Butte County.
    - AG-P4.2 The County shall provide education and outreach to support farmers in diversifying their products.

- AG-P4.3 The County shall facilitate the establishment of specialty farming areas that grow high value crops, such as organic and heirloom products and fruits, nuts and vegetables.
- AG-P4.4 The County shall encourage the establishment of small-scale agriculture uses such as specialty crops, organic farming, specialized animal facilities and agricultural research operations on small parcels of land in existing agricultural areas.
- AG-P4.5 The Unique Agriculture Overlay land use and zoning designation shall be applied to areas where farm stays, education and local retail sales are appropriate in order to support agritourism.
- AG-P4.6 The Unique Agriculture Overlay shall be approved where it can be demonstrated that an area has unique agricultural, historic and cultural significance to Butte County.
- AG-P4.7 Limited visitor-serving commercial uses, such as wineries and specialty produce markets, shall be allowed in agricultural areas with approval of a Use Permit, to ensure continued agricultural use and compatibility with surrounding uses.
- AG-P4.8 Uses that are designed to support on-site agricultural pursuits, such as direct product sales, processing, farm-based tourism, quasi-agricultural operations and agricultural research, shall be allowed on land designated for Agriculture, subject to the design review and development standards contained in the Zoning Ordinance. Such uses shall meet the following criteria:
  a. The use will not require the extension of sewer or water.
  b. The use does not substantially detract from agricultural production on-site or in the area.
  c. The use does not create a concentration of commercial uses in the immediate area.
  d. The use is compatible with and does not adversely impact surrounding land uses.
  e. The use provides for adequate traffic circulation.

- Goal AG-5 Reduce conflicts between urban and agricultural uses and between habitat mitigation banking and agricultural uses.
  - AG-P5.1 Agricultural uses shall be the primary uses within the Agriculture land use designation. Residential uses, such as a farmer's home, and habitat mitigation banking uses shall be considered accessory uses.
  - AG-P5.2 Urban development and habitat mitigation banking uses shall not limit the financial sustainability of agricultural operations.
  - AG-P5.3 The Zoning Ordinance shall require that a buffer be established on property proposed for residential development in order to protect lands designated Agriculture by the General Plan and zoned Agriculture under the Zoning Ordinance from incompatible use conflicts. The desired standard shall be 300 feet, but may be adjusted to address unusual circumstances.

- AG-P5.3.1 The Zoning Ordinance shall allow animal grazing and crop cultivation, as defined under the Zoning Ordinance, as an interim use in Residential, Commercial and Industrial zones on parcels of 1-acre or larger in size. The Butte County Right-to-Farm Ordinance (Butte County Code Chapter 35) shall continue to recognize that, while not exclusively devoted to agriculture, Residential, Commercial and Industrial zones may support animal grazing and crop cultivation as an interim use prior to development.
- AG-P5.3.2 The Zoning Ordinance shall require a setback between a new residence and an existing active orchard or vineyard that locates the residence as far away from the orchard or vineyard as practicable, taking into account adjacent agricultural uses and practices, provided it does not limit the density permitted by the residential zone, and in no case is less than 25 feet. This setback shall be imposed on the parcel developing with residences and shall be reviewed by the Zoning Administrator in consultation with the Agricultural Commissioner as to width. The setback shall be subject to a public hearing.
- AG-P5.3.3 The Zoning Ordinance shall require that a buffer be established pursuant to Policy AG-P5.3 on property proposed for residential development requiring discretionary approval in order to protect existing Williamson Act contracts (i.e. those contracts that are in effect at the time of adoption of this policy) from incompatible use conflicts. The desired standard shall be 300 feet, but may be adjusted to address unusual circumstances.
- AG-P5.4 Land divisions that separate a farmer's home or an agricultural processing facility from the agricultural land shall be prohibited, unless the lot split meets the minimum lot size requirement of the zoning district.
- AG-P5.5 To protect agricultural areas from flooding, all urban/residential development projects shall provide a drainage plan prepared by a registered civil engineer that, at a minimum, addresses:
    a. Pre-development drainage conditions for the development site, including peak runoff rates and runoff volumes.
    b. Post-development drainage conditions, including changes in peak runoff rates and runoff volumes.
    c. Off-site drainage or flooding impacts and proposed or recommended mitigation measures.
    d. Mechanisms for maintenance of drainage facilities.

- Goal AG-7 Support farmworker and farm family housing in agricultural areas.
    - AG-P7.1 Temporary housing for seasonal workers, including temporary sanitary and cooking facilities, shall be allowed during harvest season subject to applicable building and health codes.

Circulation Element

- Goal CIR-3 Design new neighborhoods, and improve existing neighborhoods, to accommodate and promote alternative modes of transportation.
    - CIR-P3.1 The County supports improved connections to other regional transportation services, such as rail and regional/national bus lines, and to connect Butte County communities with each other.
    - CIR-P3.2 A safe, continuous, integrated and accessible pedestrian network shall be provided in urbanized areas, so as to encourage walking as a viable transportation mode and as a form of recreation and exercise.
    - CIR-P3.3 Travel modes shall be interconnected to form an integrated, coordinated and balanced multi-modal transportation system.
    - CIR-P3.4 Major new development projects, as determined by the Department of Development Services, shall consider provisions for alternative modes of transportation.
    - CIR-P3.5 New development projects shall consider providing adequate pedestrian, bicycle and multi-use facilities in a way that integrates circulation and recreational use.
    - CIR-P3.6 New neighborhoods shall provide bike and pedestrian connectivity between streets.
    - CIR-P3.7 Arterial and collector streets shall be designed to enhance the integrity and cohesiveness of urban neighborhoods.
    - CIR-P3.8 Major residential development projects shall be designed with interconnected collector street patterns and short block lengths. Cul-de-sac and dead-end streets shall conform to County design standards.
    - CIR-P3.9 Public facilities shall be located and designed to allow for convenient access from public transit and/or bicycle and pedestrian facilities.
    - CIR-P3.10 Trees located along urban streets shall be protected. If maintenance or upgrading requires tree removal, the trees shall be replaced.
- Goal CIR-6 Support a balanced and integrated road and highway network that maximizes the mobility of people and goods in a safe, efficient manner.
    - CIR-P6.1 The level of service for County-maintained roads within the unincorporated areas of the county but outside municipalities' sphere of influences (SOIs) shall be level of service (LOS) C or better during the PM peak hour. Within a municipality's SOI, the level of service shall meet the municipality's level of service policy.
    - CIR-P6.2 The level of service on State Highways should at least match the concept level of service for the facility, as defined by Caltrans.
    - CIR-P6.3 Project approval shall be conditioned on the provision of roadway improvements to meet the level of service standards in policies CIR-P6.1 and CIR-P6.2.

Exceptions to satisfying the level of service standards and/or constructing transportation facilities to the County's design standards may be allowed on a case-by-case basis where reducing level of service or not constructing a transportation facility to County standards would result in a clear public benefit. Such circumstances may include, but are not limited to the following:

a. Conserving agricultural or open space land.

b. Enhancing the agricultural economy.

c. Protecting scenic roadways or highways.

d. Preserving downtown community environments.

- CIR-P6.4 Parcels adjacent to highways and significant roadways shall have only limited access to these facilities as a means to accommodate regional traffic and preserve public mobility.
- CIR-P6.5 Street improvements within the sphere of influence of an incorporated municipality shall conform to the street standards of that municipality.
- CIR-P6.6 Major new development projects and subdivisions, as determined by the Department of Development Services, shall prepare and implement traffic studies to assess and mitigate adverse impacts to local and regional transportation facilities.

- Goal CIR-7 Develop a transportation system that is consistent with and will support existing and proposed patterns and densities of land use and that encourages efficient land utilization.
  - CIR-P7.1 Rights-of-way needed for planned roads or expansion of existing roads, including facilities in the State highway system, shall be reserved, and land uses that would preclude development of such rights-of-way shall be prohibited.
  - CIR-P7.2 Existing road capacity available within the County road system shall be used to serve future development, unless construction of a new road will enhance circulation opportunities.
  - CIR-P7.3 New roads shall be located to encourage development near existing highway corridors and existing rural community centers.
- Goal CIR-11 Promote safe, effective and efficient use of existing and future air facilities.
  - CIR-P11.1 Private airstrips and landing fields shall be located outside of flight paths to and from existing airports so that they do not present a hazard or annoyance to neighboring areas.

Conservation and Open Space Element

- Goal COS-2 Promote green building, planning and business.
  - COS-P2.1 County staff shall work cooperatively with the municipalities to ensure consistent standards for green building codes and other methods to reduce greenhouse gas emissions throughout the county.

- COS-P2.2 New development shall comply with Green Building Standards adopted by the California Building Standards Commission at the time of building permit application, including requirements about low- or no-toxicity building materials.
- COS-P2.3 All new County buildings and major renovations designed for public access and/or primary workspace shall meet, at a minimum, LEED-Silver or equivalent and the County shall use these buildings to demonstrate green building practices to builders, developers, homeowners and others. Minor buildings of an accessory nature that are not used as public spaces and that do not serve as a primary work space are not required to meet LEED-Silver or equivalent, but shall implement practical building design, construction, and maintenance solutions as set forth under the LEED rating system or equivalent.
- COS-P2.4 All new subdivisions and developments should meet green planning standards such as LEED for Neighborhood Design.

- Goal COS-4 Conserve energy and fuel resources by increasing energy efficiency.
  - COS-P4.1 Energy efficiency efforts of local businesses shall be promoted and rewarded.
  - COS-P4.2 The Zoning Ordinance shall incorporate shading requirements for new parking lots as appropriate to relieve the potential for heat islands.
  - COS-P4.3 New development shall meet the guidelines of the California Energy Star New Homes Program, or equivalent, and demonstrate detailed energy conservation measures.
  - COS-P4.4 Site and structure designs for new development projects shall maximize energy efficiency.
- Goal COS-13 Coordinate with the Beale Air Force Base and the Department of Defense (DoD) on planning issues within the Military Influence and Operating Areas.
  - COS-P13.1 Beale Air Force Base and the Department of Defense (DoD) shall be consulted for review and comment on proposed development projects, General Plan changes, zoning changes, specific plans and other comprehensive plans within the Military Influence Area for Beale Air force Base and throughout the county for the DoD that have the potential for significant regional impacts.
  - COS-P13.2 The County shall consider the needs of the Beale Air Force Base for new and expanded infrastructure, as well as on-going maintenance needs for those infrastructure systems, within the Military Influence Area.
  - COS-P13.3 The County shall utilize the Zoning Ordinance to require review of all proposed development projects within the Military Operations Areas (MOAs) shown in Figure LU-5.

Upper Ridge Community Plan

The following policies are included in the existing Upper Ridge Community Plan (URCP) regarding land use. The numbering is from the plan (see web address for existing URCP) and therefore may not be consecutive.

Land Use and Development Strategies

- Strategy LU-2.1: recommend that the General Plan supports the provision of multifamily housing on the Upper Ridge in appropriate locations.
- Strategy LU-2.2: Recommend that the General Plan support the development of a variety of multifamily housing types on the Upper Ridge that fit with the character of existing development, including, but not limited to, garden apartments, townhouses, duplexes and triplexes, cottage home developments, and accessory dwelling units.
- Strategy LU-2.3: Recommend that the General Plan support the use of Design Guidelines for new multifamily development on the Upper Ridge to ensure projects fit with the existing character of the area. These guidelines are found in Chapter 10, Multi-family Residential Design Guidelines of the Upper Ridge Community Plan, and do not pertain to single-family residences or commercial development.
- Strategy LU-2.4: Ensure multifamily housing that is fire-safe by adhering to fire-safe building codes and exploring the use of new fire-resistant materials.
- Strategy LU-2.5: Support new multi-family housing on the Upper Ridge at sites close to services and evacuation routes, that include commercially zoned properties along Lakeridge Circle and along Old Skyway in Old Magalia. Amend the General Plan to redesignate parcels as shown in Figures 3.3 and 3.4 from Retail and Office to Mixed-Use.
- Strategy LU-2.6: Amend the Zoning Ordinance to make it consistent with General Plan redesignation described in Strategy LU-2.5 to allow new multifamily housing on the Upper Ridge. Change zoning of parcels shown in Figures 3.3 and 3.4 from General Commercial to Mixed-Use.
- Strategy LU-3.1: Support federal and state funding of homeless programs to address the lack of housing and assist unhoused people in Butte County, including the “rural homeless” on the Upper Ridge.
- Strategy LU-4.1: Work across County departments and agencies to attract businesses that provide desired goods and services in the Lakeridge Circle area.
- Strategy LU-4.2: Ensure the potential for rebuilding of commercial properties and additional new establishments in the commercial area at the Lakeridge Circle area by supporting the work of the Paradise Ridge Chamber of Commerce and other business groups to coordinate redevelopment with businesses in the Town of Paradise.

Magalia Center Strategies

- Strategy MC-1.1: Seek ways to fund and implement the creation of a public gathering space at Magalia Center. Explore the feasibility of a community garden associated with the gathering space.
- Strategy MC-1.2: Develop an organization to oversee programming of community events at Magalia Center. Community events could include seasonal events, such as a pumpkin patch or Christmas tree lighting; ongoing events like a farmers’ market; and special events like 5K races.

- Strategy MC-1.3: Seek funding to renovate and enhance the existing promenade walkway to connect community gathering space, serve existing businesses, and attract new commercial development.
- Strategy MC-1.4: Explore the possibility of creating one-time or ongoing food truck festival events in the Magalia Center area, that would highlight food vendors from Butte County.
- Strategy MC-1.5: Ensure that the existing Magalia Community Center and Park on South Park Drive is a part of future planning and development at Magalia Center. Physical connections from Magalia Center to the Magalia Community Center and Park should be safe, convenient, and clearly marked. Programming of events at both locations should be coordinated.

Butte County Airport Land Use Compatibility Plan

On November 15, 2017, Butte County's Airport Land Use Commission (ALUC) adopted the current *Butte County Airport Land Use Compatibility Plan* (ALUCP). It establishes procedures and criteria for the ALUC to review proposed land use development and affected cities within the county for compatibility with airport activity. State law requires public access airports to develop comprehensive land use plans, designating airport vicinity land use and clear zones. Such plans are to be adopted by the County's ALUC, which comprises two members appointed by the municipalities, two members appointed by the airport managers, two members appointed by the County Board of Supervisors, and one member from the public-at-large appointed by the ALUC.

The Butte County ALUCP is distinct from airport master plans, which address planning issues within a specific airport. The purpose of a compatibility plan is to ensure that incompatible development does not occur on lands surrounding the airport. The 2017 ALUCP encompasses the four principal airports in the county: Chico Municipal Airport, Oroville Municipal Airport, Paradise Skypark Airport, and the Ranchaero Airport.

Butte Regional Habitat Conservation Plan and Natural Community Conservation Plan

The County currently participates in a comprehensive conservation planning effort that includes the Butte Regional Habitat Conservation Plan (HCP) and Natural Community Conservation Plan (NCCP). Coordinated by the Butte County Association of Governments (BCAG), the Butte Regional HCP/NCCP, which is pending adoption, is an assessment of the county's natural resources and a strategy for protecting those resources while allowing for future growth and development in Butte County. The Butte Regional HCP/NCCP focuses on the western half of the county, where there is the greatest conflict between urban development and federal and State protected species. The goals of the Butte Regional HCP/NCCP include mapping the range of federal- and State-protected species, important habitats, and ecosystems; providing for the recovery of endangered species; and allowing for a streamlined process of environmental permitting. The final HCP/NCCP was submitted to the United States Fish and Wildlife Service (USFWS), National Marine Fisheries Service (NMFS), and California Department of Fish and Wildlife (CDFW) on June 28, 2019, for inspection and publication in the federal register.

5.11.1.2 EXISTING CONDITIONS

Existing Land Uses

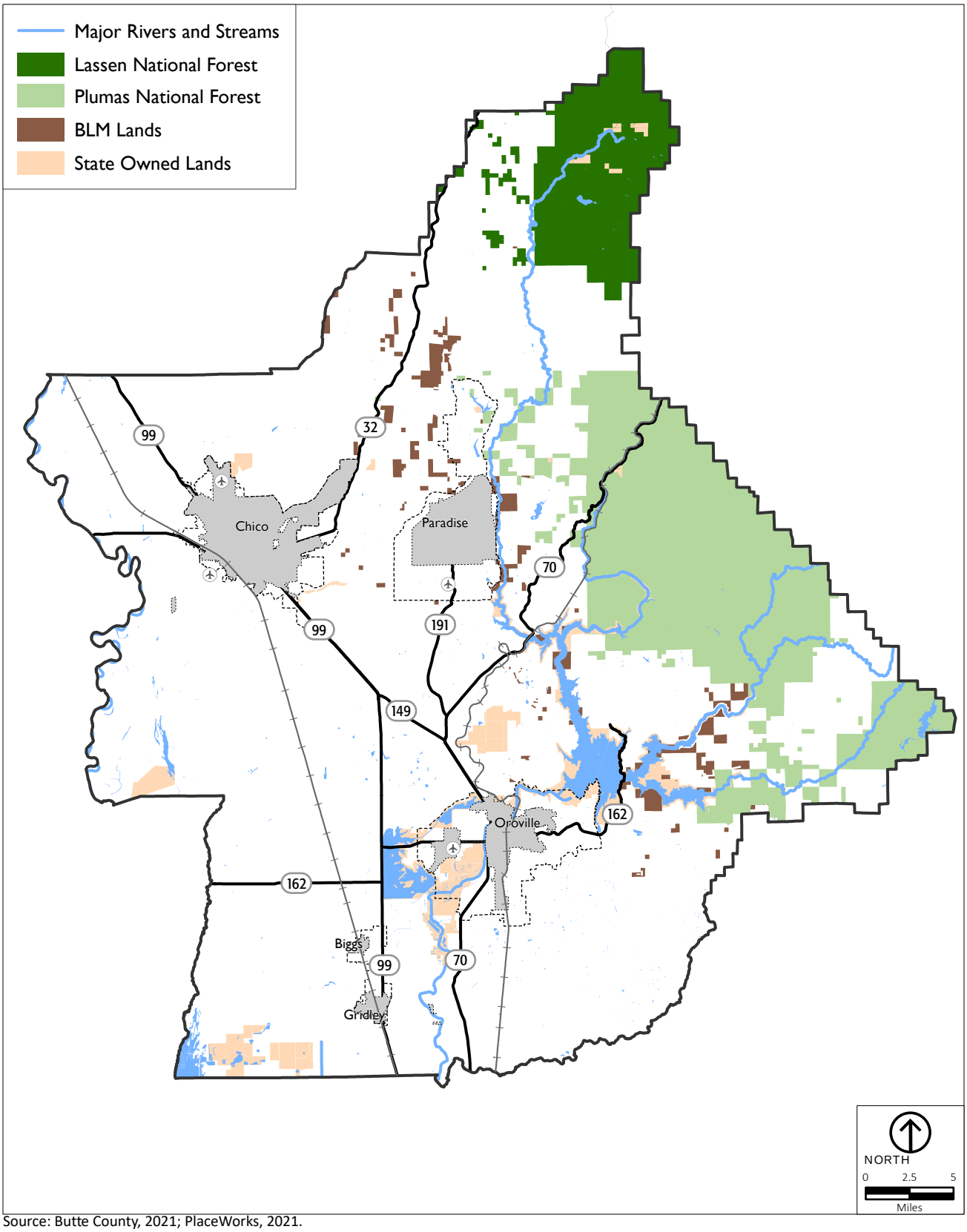
Broadly speaking, existing land use in Butte County as a whole can be divided into two major types: open space uses, including agriculture, natural resource, and public and recreation lands, which constitute the vast majority of the county's unincorporated areas; and urban uses, primarily associated with the five major incorporated communities (Biggs, Chico, Gridley, Oroville, and Paradise), and the unincorporated towns and villages that are scattered throughout the county. Historically, overall land use patterns in Butte County have been closely related to the natural characteristics of the county's main geographic areas, with concentrations of population in proximity to the most richly productive agricultural resources of the valley floor, and more scattered populations in the foothill and mountain regions.

Table 5.11-1, *Acreage by Generalized Land Use Types,* presents approximate existing land use acreage by generalized land use types for the entire county. The total land area of Butte County is approximately 1,680 square miles (1,073,198 acres). As shown in Table 5.11-1, farmland and grazing lands account for almost 60 percent of all land in the county. "Other land" is the next largest area; this category includes low-density rural developments, vacant and nonagricultural land greater than 40 acres surrounded on all sides by urban development, vegetative areas not suitable for livestock grazing, strip mines, confined animal agriculture facilities, borrow pits, and water bodies smaller than 40 acres. Urbanized and developed land (i.e., residential, commercial, and industrial development) accounted for approximately 4 percent of the total area at the time of this quantification.

TABLE 5.11-1 ACREAGE BY GENERALIZED LAND USE TYPES

Category	Acreage	% of County
Urban or Developed	46,650	4.3%
Grazing Land	398,764	37.2%
Farmland	238,871	22.2%
Water	23,195	2.1%
Other Land	365,781	34.1%
Total	1,073,198	100.0%

Source: 2018 Farmland Mapping & Monitoring Program.



Source: Butte County, 2021; PlaceWorks, 2021.

Figure 5.11-1
Federal and State Lands

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Open Space Land Uses

Various sorts of open space land uses constitute the majority of the unincorporated county and form the basis for the productive industries (agriculture, mining, and forestry) that lie at the heart of the local economy. Each of the three principal terrain areas within the county, valley, foothills, and mountains, has provided a context for the nature of the open space and natural resources found there. The following subsections describe those open space land uses using these three major topographic divisions as an organizing framework.

The productive industries associated with each area are frequently non-transferable economic activities; that is, they are highly dependent on the preservation of local geographic and land use conditions. For example, the cultivation of almonds and other orchard crops, a major industry in Butte County, is dependent on the deep, rich soils of the valley to thrive, and the timber industry is dependent on the forests in the higher altitudes of the east county.

Valley

Butte County has been, and continues to be, a predominantly rural, agricultural county. Two kinds of agricultural activity occur in the county: (1) cultivation of row and field crops (field, seed, vegetables), orchard and tree products (fruit and nut), nursery stock, and apiary (bee and honey); and (2) grazing/animal husbandry, a category that includes livestock ranching and all aspects of animal husbandry.

The valley area, which consists of rich alluvial bottom lands of the Sacramento River Valley, is predominantly agricultural in character. Most of the intensive agriculture in the county occurs here, due to the availability of level topography, prime cultivable soils, and excellent drainage. In 2018, approximately 239,000 acres of county land were used for important farmland agriculture, and an additional 399,000 acres were devoted to grazing lands (DOC 2022). Numerous agricultural processing facilities are found throughout the valley area.

Foothills

Open space land use activities in the foothills are concentrated in three principal industries: “extensive” agriculture, mining, and recreation. Extensive agriculture (irrigated pasture, grazing, and animal husbandry) is a major land use in the county. A significant portion of the county is used at least part of the year for grazing cattle, sheep, goats, and other livestock on natural vegetation. Generally, however, extensive agricultural activities occur between the elevations of 200 and 2,100 feet above sea level where the rolling topography and poor soils are unsuitable for raising crops.

Mining of mineral resources represents another important land use in Butte County, and most of this activity takes place in the foothills, with the greatest concentrations of mines and mining operations north of Oroville near Highways 70 and 149. South of Oroville, the Palermo and Honcut-Bangor areas also contain large numbers of mining operations. Sand, gravel, and stone constitute the most important mineral resources in the county.

Recreational uses in the foothills are connected primarily with major water resources, such as Lake Oroville, Thermalito Forebay and Afterbay, and the Feather River. These areas are major recreational attractions for both county residents and visitors each year.

Mountains

Land use in the mountains area reflects the area's abundance of natural resources. Chief among these are forests, minerals, water, and wildlife. The area's scenic beauty has also created the base for an important tourism and recreation industry.

Pine and fir forests ("timberlands") dominate the mountains area of the county and support the wood products industry. The mountains and forests also contain significant wildlife habitat and watershed protection areas.

Sites for outdoor recreation include portions of two national forests (Plumas and Lassen), as well as the Feather Falls Scenic Area and parkland along the Middle Fork of the Feather River.

Urban Land Uses

Historically, urban lands (i.e., residential, commercial, and industrial uses, generally served by public sewer and water systems) have constituted a proportionally small share of total land area in Butte County, although it is a share that is increasing annually. The Division of Land Resource Protection in the California Department of Conservation, through its Farmland Mapping and Monitoring Program (FMMP), reported that "urban and built-up land" land uses occupied 46,650 acres in 2018 (DOC 2022).

Most of the county's urban land uses, including four of five of the incorporated municipalities, are in the valley region. Many other small farming and ranching towns developed within the valley floor, reflecting the rich agricultural soils and mild climate, proximity to transportation links for goods transportation, and available water supply.

Urban uses in the foothills are concentrated in and adjacent to the incorporated communities of Paradise and Oroville, which has grown to the east to encompass both valley and foothill areas. The slopes east of Oroville have attracted both rural and urban development. In the Paradise area, development prior to the 2018 Camp Fire was dispersed over the ridges within the Town of Paradise and in the unincorporated communities to the north. Although no major urban settlements are in the mountains, smaller communities are distributed throughout the area, including many former mining camps that are now centers of rural residential development or linked to the tourism industry.

Incorporated Cities and Towns

Table 5.11-2, *Distribution of Municipal and County Land – Butte County 2021,* shows the estimated acreage of incorporated lands, their spheres of influence (SOIs), and unincorporated lands in the county in 2000 and 2021. The areas shown in the table were calculated from Butte County's or local jurisdictions' geographic information system (GIS) data. As shown in the table, there was a significant increase in the total unincorporated county land within an SOI boundary during this period. Over the past two decades, the SOI boundaries for all five municipalities in the county have been amended by LAFCO. The largest SOI boundary change occurred in the City of Chico, which has increased from 6,433 acres in 2000 to 28,083 acres in 2021.

TABLE 5.11-2 DISTRIBUTION OF MUNICIPAL AND COUNTY LAND – BUTTE COUNTY 2021

	2000 Acreage		2021 Acreage		Growth: 2000-2021 Acreage Change	
	Acres	% of County Total	Acres	% of County Total	Acres	% of Change
Biggs Total – SOI and Incorporated	525	0.05%	2,734	0.25%		
Incorporated	334	0.03%	400	0.04%	66	20%
Unincorporated in SOI	191	0.02%	2,333	0.22%	2,142	1,122%
Chico – SOI and Incorporated	24,444	2.28%	49,347	4.60%		
Incorporated	18,012	1.68%	21,264	1.98%	3,252	18%
Unincorporated in SOI	6,433	0.60%	28,083	2.62%	21,650	337%
Gridley – SOI and Incorporated	1,738	0.16%	4,054	0.38%		
Incorporated	922	0.09%	1,438	0.13%	516	56%
Unincorporated in SOI	816	0.08%	2,616	0.24%	1,800	221%
Oroville – SOI and Incorporated	26,499	2.47%	42,610	3.97%		
Incorporated	7,804	0.73%	8,866	0.83%	1,062	14%
Unincorporated in SOI	18,695	1.74%	33,744	3.14%	15,049	80%
Paradise – SOI and Incorporated	29,133	2.72%	40,753	3.80%		
Incorporated	11,631	1.08%	11,542	1.08%	-89	-1%
Unincorporated in SOI	17,502	1.63%	29,211	2.72%	11,709	67%
Unincorporated County Outside of SOIs Only	990,597	92.33%	933,702	87.00%		
Unincorporated County Total	1,034,232	96.39%	1,029,689	95.95%	-4,543	-0.4%
Unincorporated County Inside SOIs	43,636	4.07%	95,988	8.94%	52,352	120%
Total Butte County	1,072,935	100.00%	1,073,200	100.00%		
Total SOIs and Incorporated	82,339	7.67%	139,498	13.00%		
Total Incorporated	38,703	3.61%	43,511	4.05%	4,808	12%
Total SOIs Only	43,636	4.07%	95,988	8.94%	52,352	120%

Sources: Butte County GIS Services 2021.

Unincorporated Rural Communities

In addition to the five incorporated communities, there are a large number of smaller population centers and rural unincorporated towns and villages throughout the county. Many of these are distinct centers, formed around historic mining, logging, or farming communities; others have developed on the edges of larger incorporated cities and towns, through creation of new subdivisions.

Scattered Rural Development

Low-density rural residential, agricultural-industrial, and scattered commercial development is dispersed throughout the unincorporated areas. Residential development mostly consists of single-family residences, many of which are associated with active farming activities on the same or adjacent parcels. Some smaller parcels, often referred to as rural ranchettes, have been converted into rural home sites where active farming has been discontinued.

Small industrial/commercial complexes, many of which provide ancillary services to agricultural uses (e.g., feed or machinery sales, well-drilling services, and spray operations), or provide food processing, are also found in dispersed locations. Gas stations, small food markets, local-serving retail stores and professional offices also make up some of the nonresidential scattered rural land uses.

Specific, Area, and Neighborhood Plans

Specific, area, and neighborhood plans are tools that can be used to guide growth and development in designated geographic areas. A specific plan is fundamentally a tool for the "systematic implementation" of a general plan, typically within a defined area. Because the general plan must address policy issues on a broad scale throughout the agency's jurisdiction, it lacks specificity to deal with the needs of a smaller area. Although the specific plan must be consistent with the general plan, it can address infrastructure, land use, and financial issues in a more appropriately focused and detailed manner. Area and neighborhood plans provide extra detail beyond what the General Plan was designed to accomplish and provide more specific direction to these various planning areas.

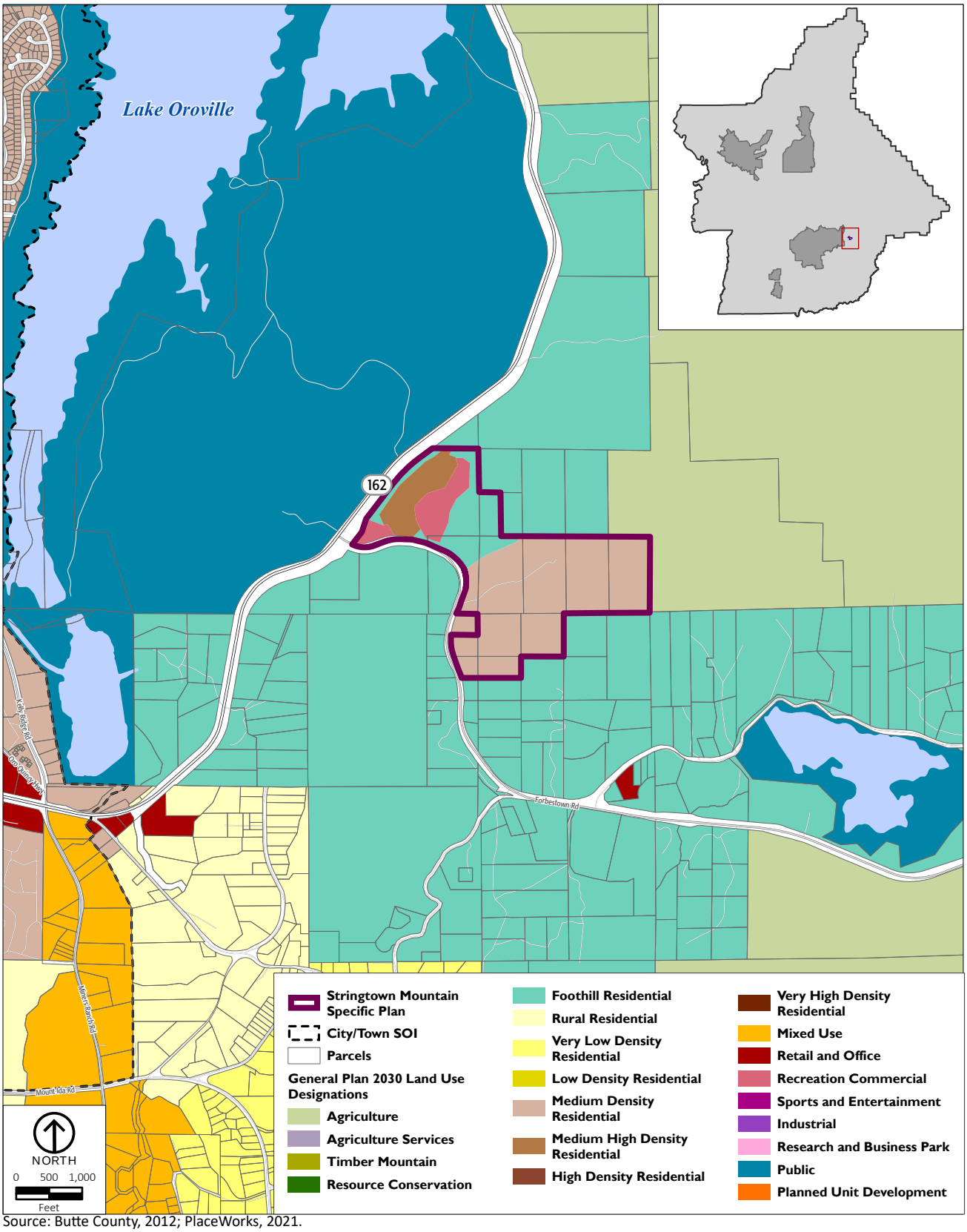
There are three specific plans in Butte County: the *Stringtown Mountain Specific Plan,* the *North Chico Specific Plan*, and the *Rio d'Oro Specific Plan*. In the 1980s and 1990s, Butte County adopted a number of area plans and one neighborhood plan. Policy guidance from those area plans was incorporated throughout the 2030 General Plan. Specific policy guidance from the *Durham-Dayton-Nelson Area Plan* was incorporated into a discrete chapter of the General Plan: Chapter 13, Area and Neighborhood Plans Element. Currently, the *Durham-Dayton-Nelson Area Plan* is the only area plan in Butte County. In addition to these existing plans, the County is currently in the process of preparing the URCP. All current plans are described herein.

Stringtown Mountain Specific Plan

The Stringtown Mountain Specific Plan, adopted September 1994, addresses design criteria and development standards for the future development of a health resort and residential community in the foothills east of Oroville, at Highway 162 and Forbestown Road. Figure 5.11-2*, Stringtown Mountain Specific Plan,* maps the Stringtown Mountain Specific Plan area. The development foreseen in the Specific Plan has encountered obstacles to its implementation, primarily due to issues with provision of sewer service.

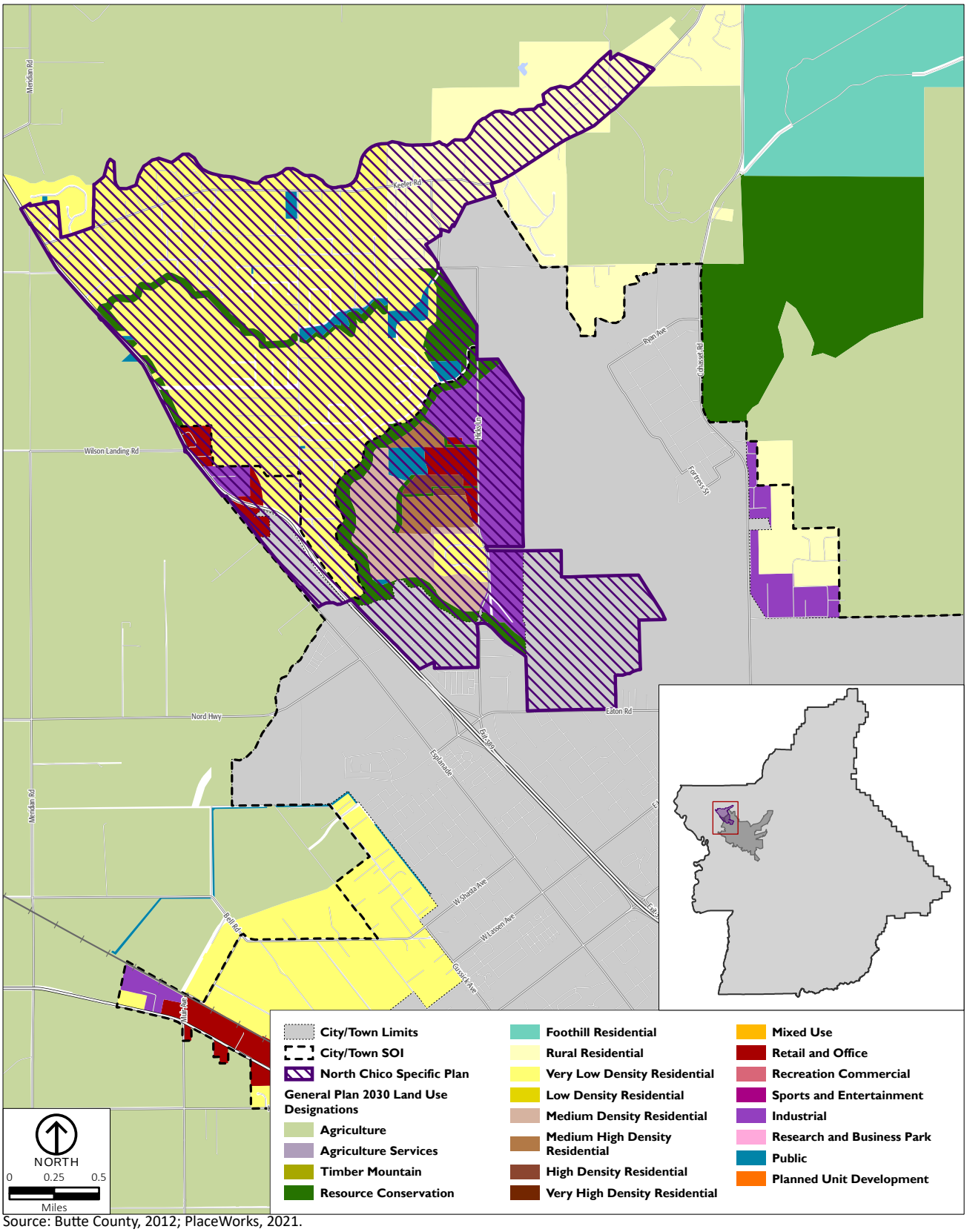
North Chico Specific Plan

The North Chico Specific Plan was adopted in January 1995. The plan area, which is mapped in Figure 5.11-3, *North Chico Specific Plan*, encompasses 3,590 acres bounded by Sycamore Creek to the south, Highway 99 to the west, Rock Creek to the north, and Chico Municipal Airport to the east. The Specific Plan allows for the development of 2,803 residential dwelling units at varying densities. The purpose of this plan is to comprehensively respond to development proposals and incorporate them into a concept for land use for the area, while evaluating and providing for area-wide solutions to drainage, circulation, and public services. The County is currently in the process of amending the Specific Plan to guide development of the North Chico Village site within the plan area.



Source: Butte County, 2012; PlaceWorks, 2021.

Figure 5.11-2
Stringtown Mountain Specific Plan



Source: Butte County, 2012; PlaceWorks, 2021.

Figure 5.11-3
North Chico Specific Plan

Rio d'Oro Specific Plan

The Rio d'Oro Specific Plan was adopted in May 2015 and encompasses approximately 689 acres along State Route 70 south of Oroville, 276 acres of which are dedicated to environmental conservation and scenic open space. The Rio d'Oro Specific Plan area is shown in Figure 5.11-4, *Rio d'Oro Specific Plan*. The Specific Plan limits development to no more than 2,700 dwelling units of mixed residential types and 30 acres of retail and office uses along the northern portion of the Specific Plan. Smaller areas are planned for public and commercial uses in the southeast portion of the plan area at State Route 70 and Palermo Road. There are additional steps that need to be completed before development of the Rio d'Oro Specific Plan can occur. Although the northern-central portion of the Specific Plan area is already zoned for high-density residential and such development is permitted by right, sewer, water, and power access are needed prior to development. Prior to developing the remaining area, the following steps are required: a General Plan amendment and rezone, an ordinance that sets specific development standards for the area, some land acquisition, a development agreement negotiation process, and a fiscal analysis.

Upper Ridge Community Plan

The URCP was accepted by the Board of Supervisors in March 2022. The Community Plan will set a vision and provide policy guidance for the Upper Ridge communities north of the Town of Paradise, as shown in Figure 5.11-5, *Upper Ridge Community Plan*. The purpose of this Community Plan is to support recovery and rebuilding efforts from the Camp Fire and foster resilient and thriving communities.

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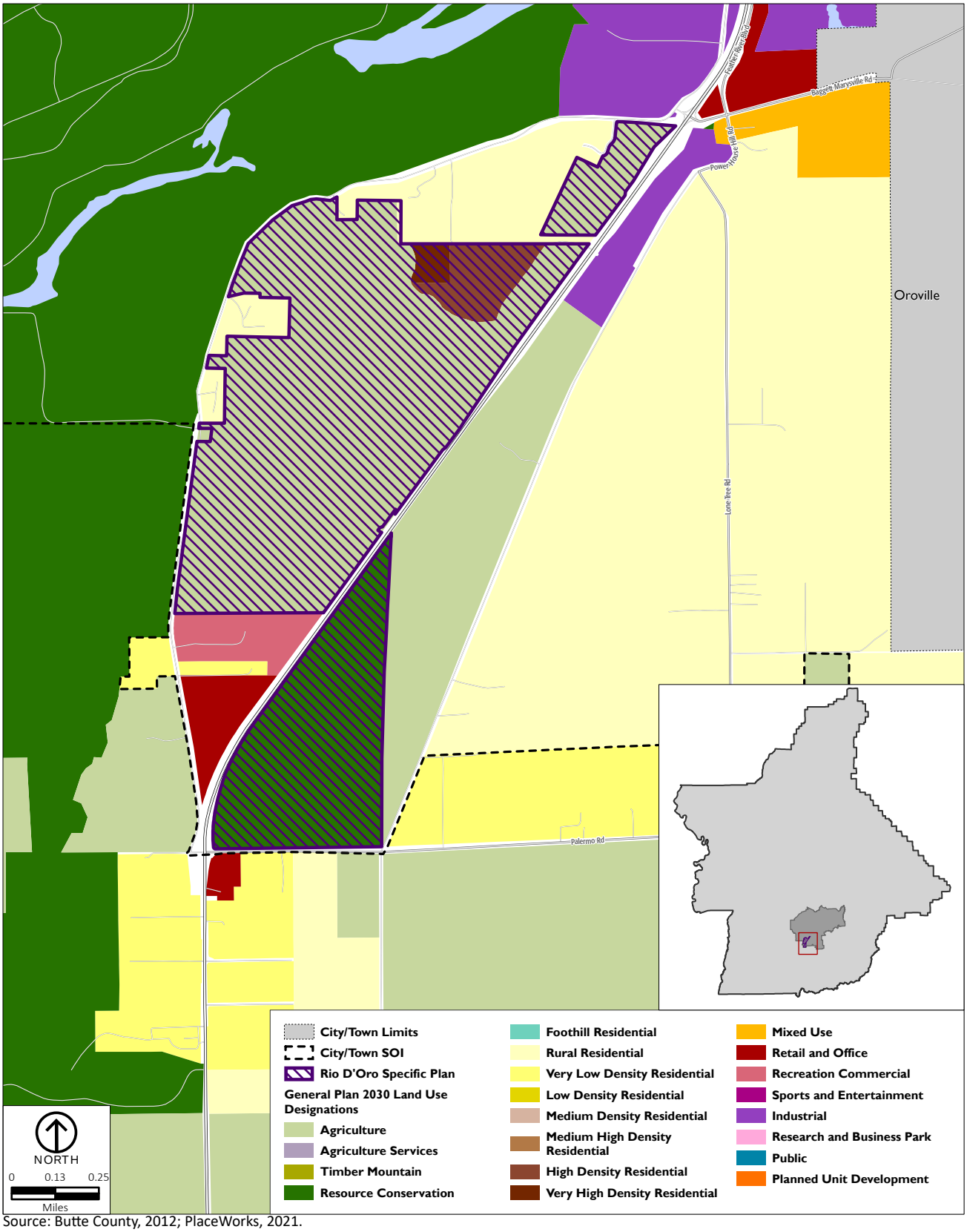
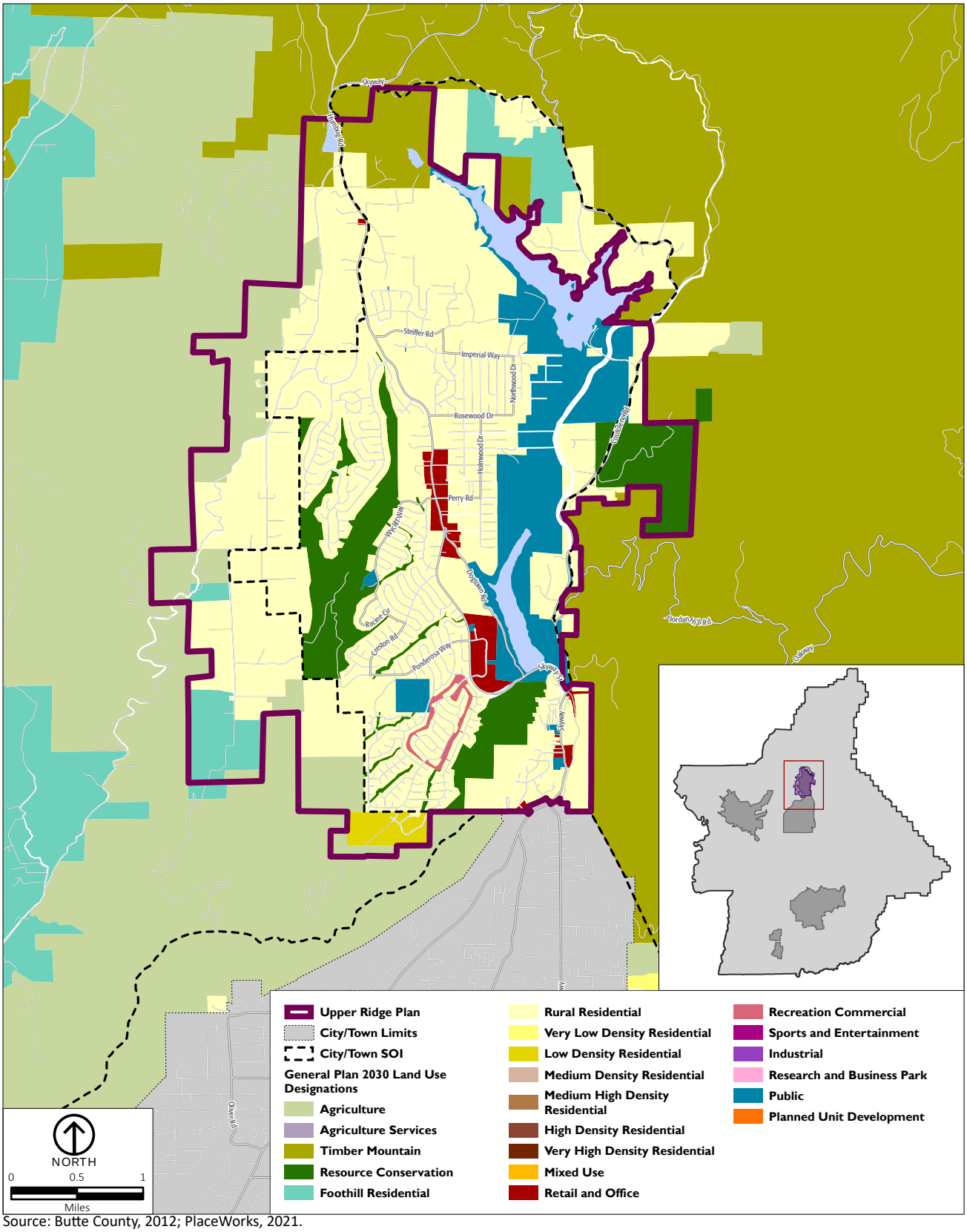


Source: Butte County, 2012; PlaceWorks, 2021.

Figure 5.11-4
Rio D'Oro Specific Plan



Source: Butte County, 2012; PlaceWorks, 2021.

Figure 5.11-5
Upper Ridge Community Plan

Durham-Dayton-Nelson Area

The *Durham-Dayton-Nelson Area Plan* was adopted in 1992, covering the unincorporated communities of Durham, Dayton, and Nelson in west-central Butte County, as shown in Figure 5.11-6, *Durham-Dayton-Nelson Area Plan*. The Area Plan establishes land use policies and designates the planning area as an urban reserve. Policies for the area include a restriction on rural residential development to parcels of three acres or more, until such time as it is determined the area is "needed for development," and adequate services are available to serve that development.

Zoning Ordinance

The Butte County Zoning Ordinance, adopted November 2012, sets forth zoning regulations for the unincorporated areas of the county. The Zoning Ordinance regulates land uses, building heights, setbacks, provision of open space, and other factors that relate to development on individual properties.

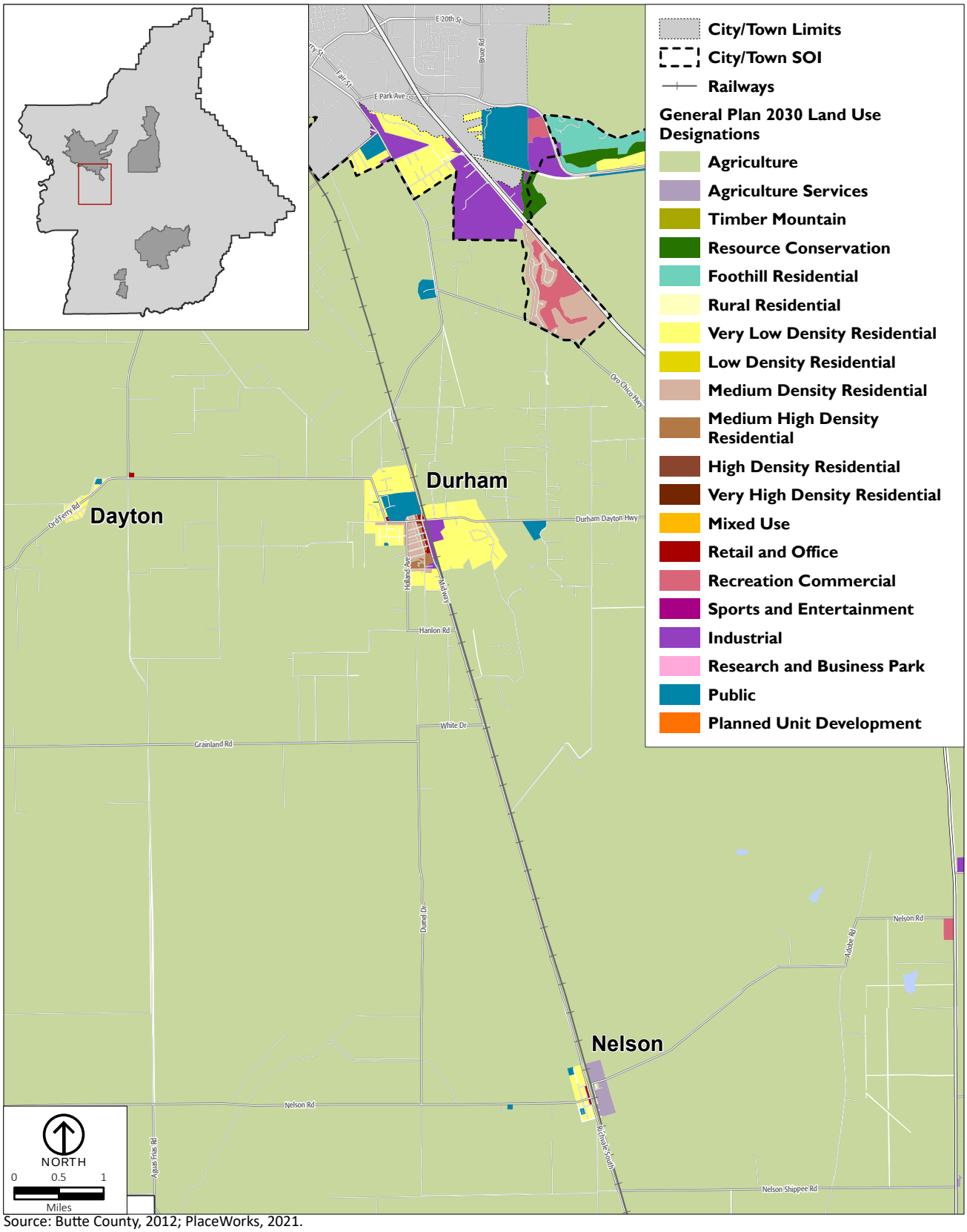
Under State law, cities and counties have broad latitude in establishing zoning standards and procedures. One key requirement, however, is that zoning regulations shall be consistent with the general plan.

The Butte County Zoning Ordinance establishes a total of 41 zoning districts. There are also 16 overlay zoning districts that provide additional standards to specified areas in the county.

The following is a brief summary of the zoning categories. This summary outlines only general standards; the Zoning Ordinance itself should be consulted for specific details regarding permitted, accessory, and conditional uses, and other regulations.

- Agricultural Zones (AS, A-20, A-40, A-80, A-160). These zones provide for agricultural uses with minimum lot areas of 20, 40, 80, and 160 acres, respectively. Permitted uses include one single-family dwelling per parcel, agricultural uses, and housing facilities for agricultural employees. Minimum lot acreages correspond to the suffix of the A zone; for example, the minimum lot size in the A-20 zone is 20 acres. The Agricultural Service (AS) zone does not permit residential uses, except for caretaker quarters as an accessory use. Other permitted uses in the AS zone include animal grazing, crop cultivation, and agricultural processing. The minimum lot area in the AS zone is 20,000 square feet.
- Natural Resource Zones (TM, TPZ, RC). The Natural Resource zones protect Butte County's valuable timber resources and preserve the natural, wilderness, and scientific study areas that are critical to the environmental quality. These zones permit one single-family dwelling per parcel, animal grazing, and private stables. Timber processing, forestry, and logging are permitted uses in the Timber Mountain I and Timber Production (TPZ) zones.
- Foothill and Rural Residential Zones (FR-1, FR-2, FR-5, FR-10, FR-20, FR-40, FCR-20, RR-5, RR-10, RCR-10). The Foothill Residential (FR) and Rural Residential (RR) zones permit large lot, single-family dwellings and small farmsteads in the foothill and agricultural areas of the county. Animal grazing, crop cultivation, private stables, on-site agricultural product sales, and other similar agricultural activities are also permitted uses in these zones. The suffix of each FR and RR zone specifies the minimum lot area in acres.

- Residential Zones (VLDR, VLDR-2.5, VLDCR, LDR, MDR, MHDR, HDR, VHDR). These zones permit residential uses at varying densities. The highest residential density permitted is 30 dwelling units per acre, in the VHDR zone. Permitted uses in the VLDR and VLDCR zones include single-family homes, small residential care homes, accessory dwelling units, animal grazing, on-site agricultural product sales, and private stables. The LDR and MDR zones permit single-family homes, accessory dwelling units and small residential care homes. The MHDR, HDR, and VHDR zones allow a mixture of housing types at medium and high densities. Permitted housing types include single-family homes, duplex homes, multifamily dwellings, second units, and accessory dwelling units.
- Commercial and Mixed-Use Zones (G-C, C-C, N-C, REC, S-E, MU-1, MU-2, MU-3). These zones (General Commercial, Community Commercial, Neighborhood Commercial, Recreation Commercial, Sports and Entertainment, and Mixed-Use, respectively) allow various types of retail and other commercial uses. Except for the REC and S-E zones, these zones also permit or conditionally allow specified types of residential uses. The S-E zone is intended primarily for sports and entertainment uses, such as sports facilities, theaters, and golf courses. The REC zone is intended exclusively for unique recreation and tourism-related uses; caretaker units, as an accessory use, are permitted in this zone.
- Research and Business Park Zone (RBP). The RBP zone is initiated on a case-by-case basis by a property owner. Primary uses in this zone include research and development, business and professional corporate headquarters, and light industrial and manufacturing geared toward high and advanced technology. Site development standards include extensive landscaping, open space, and recreational opportunities. The RBP zone is currently applied in one location north of Oroville.
- Industrial Zones (L-I, G-I, H-I). These zoning districts (Light Industrial, General Industrial, and Heavy Industrial) permit varying intensities of manufacturing uses (including assembly, processing, fabricating, refining, repairing, packaging, and treatment), as well as warehouse storage and distribution.
- Other Zones (PB, AIR, PD, Overlay Zones). The PB (Public) zone allows public and quasi-public facilities to serve Butte County residents. Permitted uses in the PB zone include public and private schools, parks and playgrounds, community centers, government offices, and police and fire stations. The AIR (Airport) zone is intended exclusively for Butte County's airports and permits uses typically associated with airport operations. It allows unscheduled air carrier facilities, charter aircraft operations, aircraft storage, and other similar uses. Retail, services, and restaurant uses are conditionally permitted. The PD (Planned Development) zone is intended to promote creativity in building design and allow for high-quality development that deviates from applicable standards. It allows diversification in land uses, structures, lot sizes, and open spaces, consistent with the General Plan and subject to County approval of a land use and development plan for the site. There are many overlay zones that establish regulations in addition to the underlying base zone requirement. Examples of existing overlay zones include the Airport Compatibility Overlay Zone, Butte Creek Canyon Overlay Zone, Deer Herd Migration Overlay Zone, Public Housing Overlay Zone, and the Scenic Highway Overlay Zone. Whenever a conflict exists between the overlay zone and base zone, the overlay zone requirement applies.



Source: Butte County, 2012; PlaceWorks, 2021.

Figure 5.11-6
Durham-Dayton-Nelson Area Plan

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5.11.2 STANDARDS OF SIGNIFICANCE

The proposed project would result in a significant land use and planning impact if it would:

1. Physically divide an established community.
2. 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.
3. In combination with past, present, and reasonably foreseeable projects, result in significant cumulative impacts with respect to land use and planning.

5.11.3 PROPOSED GENERAL PLAN POLICIES

The following are relevant policies of the Butte County General Plan Update that would regulate land use in the county.

Land Use Element

- LU-P1.7: The County shall support and coordinate with the planning efforts of incorporated municipalities.
- LU-P1.8: The County shall support community planning efforts by and for unincorporated communities.
- LU-P4.1: The integrity and stability of existing residential neighborhoods shall be promoted and preserved.
- LU-P2.3: The County shall support planning efforts in unincorporated communities by providing knowledge, time and materials to community efforts.
- LU-P11.3: Staff shall review all General Plan updates, General Plan amendments and major development project proposals for each municipality and inform municipal staff of project/plan consistency with County plans.
- LU-P11.4: Staff shall also refer all County General Plan amendments, Zoning Code amendments, and development projects within a municipality's General Plan Planning Area to that municipality for review and comment.
- LU-P12.7: The County will work cooperatively with municipalities to establish urban growth boundaries in conjunction with appropriate revenue sharing agreements for annexations.
- LU-P14.3: The County shall encourage efficient urban infill development within municipal limits, municipal spheres of influence, and existing unincorporated communities where development can readily be served by public infrastructure facilities.

Conservation and Open Space Element

- COS-P6.1: The County shall coordinate with applicable federal, State, regional and local agencies on natural resources and habitat planning.
  - COS-P11.1: The County supports and promotes sustainable timber production.
  - COS-P11.5: Urban development shall not limit the financial sustainability of timber operations.
  - C0S-P11.6: Residential uses on or adjacent to parcels zoned Timber Production shall not be allowed to negatively impact continued timber harvesting operations.
  - COS-P11.7: Lot line adjustments shall be allowed on substandard Timber Production Zone parcels to consolidate logical timberland management units or to accommodate a valid public interest as determined by Butte County.
  - COS-17.2: County staff shall participate in a dialog with local Native American tribes to collaborate on tribal land use plans.

5.11.4 IMPACT DISCUSSION

LU-1	The proposed project would not physically divide an established community.

General Plan 2040

The General Plan Update is designed as a programmatic document, directing future growth on a countywide level, and seeks to direct overall countywide development to already urbanized areas, including the SOIs of incorporated communities and within existing unincorporated communities. The proposed project supports municipalities and the unincorporated communities in establishing desired growth patterns.

The General Plan Update provides for cohesion and connectivity of established communities, and community involvement in development projects. For example, Land Use Element Policy LU-P4.1 states that the integrity and stability of existing residential neighborhoods shall be promoted and preserved, and Policy LU-P14.3 states that the County shall encourage efficient urban infill development within municipal limits, municipal SOIs, and existing unincorporated communities where development can readily be served by public infrastructure facilities.

The General Plan Update encourages cooperative planning with municipalities. For example, Land Use Element Policy LU-P1.7 and Policy LU-P1.8 state that the County shall support planning efforts of the incorporated municipalities and unincorporated communities. Policy LU-12.7 states that the County will work cooperatively with municipalities to establish urban growth boundaries in conjunction with appropriate revenue-sharing agreements for annexations.

The proposed policies also promote cooperative planning between the County and the residents of the unincorporated communities, providing existing communities with a voice and the tools to maintain cohesive neighborhoods. Land Use Policy LU-P2.3 states that the County shall support planning efforts in unincorporated communities by providing knowledge, time, and materials to community efforts.

These proposed policies would ensure that new development would be sensitive to the existing built environment and would unify rather than divide existing communities. As a result of these policies, implementation of the General Plan Update would result in a less-than-significant impact associated with the physical division of existing communities.

Upper Ridge Community Plan

As discussed in Chapter 3, *Project Description,* the URCP would increase development potential in the Upper Ridge community by redesignating 28 parcels from Retail and Office to Mixed-use land uses in the Old Magalia and Magalia Center neighborhoods. The redesignation of these sites would not divide an established community as the uses in these areas include residential and commercial uses. Therefore, the proposed redesignation would be compatible with the adjacent uses and would not divide an established community and impacts would be less than significant.

Level of Significance Before Mitigation: LU-1 would be less than significant.

Mitigation Measures

No mitigation measures are required.

LU-2	The proposed project would not conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect.

This discussion reviews potential conflicts with federal, State, County, and municipal plans with jurisdiction in Butte County, and is organized by each type of plan.

General Plan 2040

Federal Plans

The US Forest Service and BLM own significant amounts of land in Butte County. Butte County does not have direct regulatory authority over land owned by the federal government. The General Plan Update would designate most land within the Plumas and Lassen National Forests as Timber Mountain. Smaller areas surrounding existing communities within the National Forests would be designated Public, Recreation Commercial, Rural Residential, and Foothill Residential. These designations are generally compatible with the range of uses allowed in the National Forests. Additionally, BLM properties would generally be designated Public, Timber Mountain, or Agriculture in the General Plan Update. The proposed Conservation and Open Space Element Policy COS-P6.1 states that the County shall coordinate with applicable federal, State, regional, and local agencies on natural resources and habitat planning; Policy COS-P11.1 states that

the County supports and promotes sustainable timber production; and Policy COS-P11.6 states that residential uses on or adjacent to parcels zoned Timber Production shall not be allowed to negatively impact continued timber harvesting operations.

As a result of the General Plan Update policies, implementation of the proposed project would result in a *less-than-significant* impact in relation to conflicts with federal plans.

State Plans

The State owns and manages land throughout Butte County. Butte County does not have direct authority over these lands, which would generally be designated for Public, Resource Conservation, Timber Mountain, or Agriculture under the General Plan Update. The proposed Policy COS-P6.1 states that the County shall coordinate with applicable federal, State, regional, and local agencies on natural resources and habitat planning, and proposed Policy LU-P1.7 states that the County shall support and coordinate with the planning efforts of incorporated municipalities.

As a result of the General Plan Update policies, implementation of the proposed project would result in a less-than-significant impact in relation to conflicts with State plans.

Upper Ridge Community Plan

As discussed in Chapter 3, *Project Description,* the URCP would increase development potential in the Upper Ridge community by redesignating 28 parcels from Retail and Office to Mixed-use land uses in the Old Magalia and Magalia Center neighborhoods. The redesignation would allow for either commercial, residential, or both types of development and offers flexibility to develop housing, if desired. The General Plan Update encourages consistency with other land use plans, policies, and regulations. Proposed Policy LU-P1.8 states that the County shall support community planning efforts by and for unincorporated communities. Therefore, impacts would be less than significant.

Level of Significance Before Mitigation: LU-2 would be less than significant.

Mitigation Measures

No mitigation measures are required.

5.11.5 CUMULATIVE IMPACTS

LU-3	The proposed project, in combination with past, present, and reasonably foreseeable projects, would result in less-than-significant cumulative impacts with respect to land use and planning.

Future development allowed by the proposed General Plan would be subject to the policies set forth in the Land Use Element and Conservation and Open Space Element, a number of which have been identified in this chapter. Implementation of the policies would reduce potential land use impacts related to physically dividing established communities and conflicts between land uses. Development in other communities

would also be subject to federal, state, and local policies and plans governing land use. Therefore, the cumulative impacts to land use and planning would be less than significant.

Level of Significance Before Mitigation: LU-3 would be less than significant.

Mitigation Measures

No mitigation measures are required.

5.11.6 REFERENCES

California Department of Conservation (DOC). 2022, May (accessed). Butte County – Important Farmland Data Availability. Land Use Conversion Table 2016-2018. https://www.conservation.ca.gov/dlrp/fmmp/Pages/Butte.aspx

U.S. Bureau of Land Management (BLM). 2017. *1993 Redding Resource Management Plan*. https://eplanning.blm.gov/eplanning-ui/project/75497/510

5.12 MINERAL RESOURCES

This chapter describes the regulatory framework and existing conditions in the Plan Area related to mineral resources, and the potential impacts of the project on mineral resources.

5.12.1 ENVIRONMENTAL SETTING

5.12.1.1 REGULATORY FRAMEWORK

This section summarizes key State and local policies, programs, and regulations that apply to the mineral resources of Butte County.

State Regulations

Surface Mining and Reclamation Act

The California Surface Mining and Reclamation Act of 1975 (SMARA) was enacted in response to land use conflicts between urban growth and essential mineral production. SMARA requires the State Geologist to classify land according to the presence or absence of significant mineral deposits. Local governments must consider this information before land with important mineral deposits is committed to land uses incompatible with mining.

SMARA provides for the evaluation of an area's mineral resources using a system of Mineral Resource Zone (MRZ) classifications that reflect the known or inferred presence and significance of a given mineral resource.

- MRZ-1. Areas where adequate information indicates that no significant mineral deposits are present, or where it is judged that little likelihood exists for their presence.
- MRZ-2. Areas where adequate information indicates that significant mineral deposits are present, or where it is judged that a high likelihood for their presence exists.
- MRZ-3. Areas containing mineral deposits, the significance of which cannot be evaluated from available data.
- MRZ-4. Areas where available information is inadequate for assignment into any other MRZ.

Local Regulations

Butte County General Plan 2030

The following policies are included in the existing General Plan regarding aesthetics. The numbering is from the existing General Plan and therefore may not be consecutive.

Conservation and Open Space Element

- Goal COS-12 Protect economically viable mineral resources and related industries while avoiding land use conflicts and environmental impacts from mining activities.

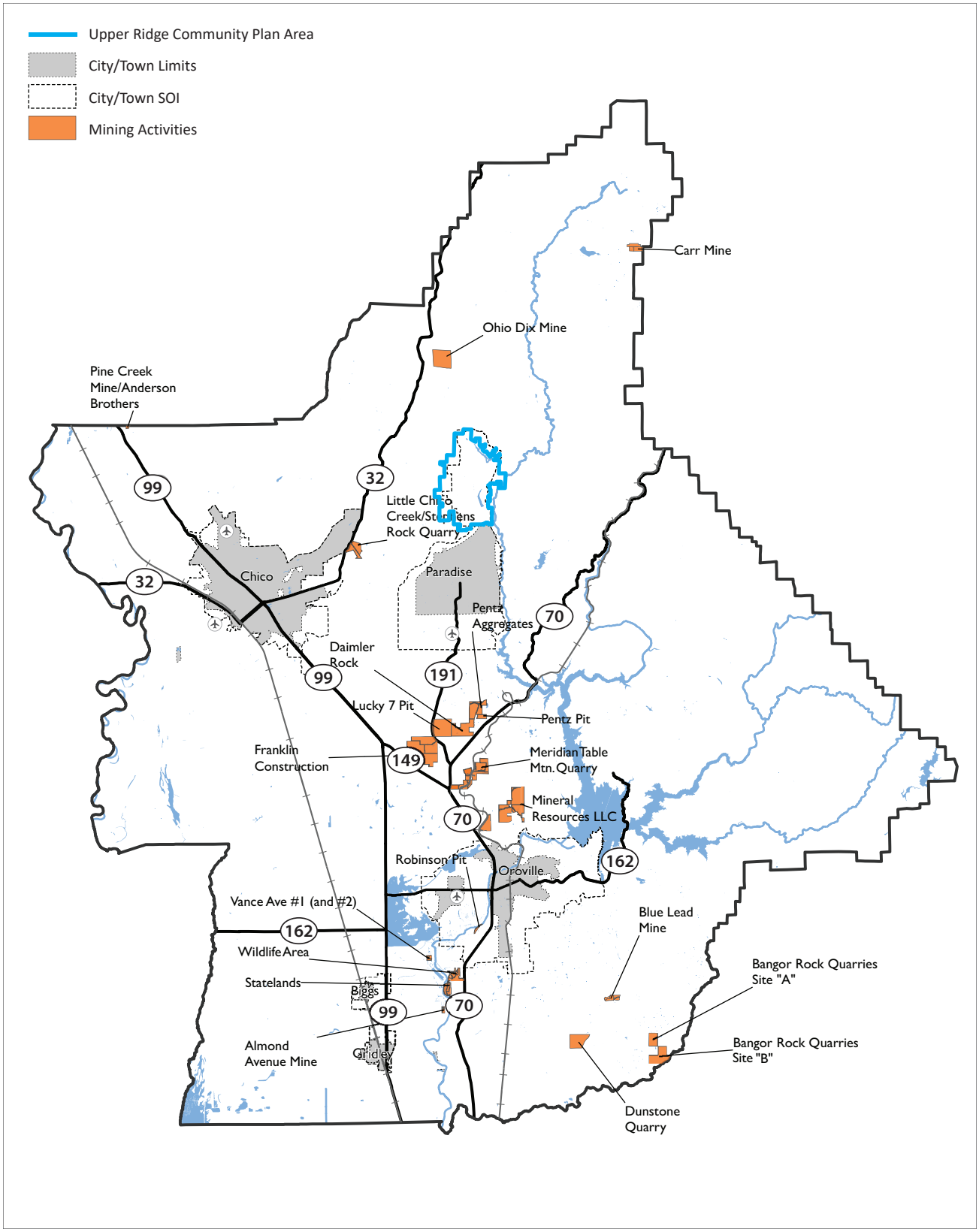
- COS-P12.1 Sufficient aggregate resources to meet the County's fair share of future regional needs shall be conserved.
- COS-P12.2 Mineral resources identified by the State to be of regional or statewide significance for mineral resource extraction shall be conserved.
- COS-P12.3 Permitted uses on lands containing and adjacent to important mineral resources shall be restricted to those compatible with mineral extraction, except in cases where such uses offer public benefits that outweigh those of resource extraction.
- COS-P12.4 Prior to approval of any new or expanded mining operation, the applicant shall demonstrate that the operation will not create significant nuisances, hazards or adverse environmental effects.
- COS-P12.5 New mineral haul routes shall avoid landslides, highly erodible soils, residential areas and schools, when feasible.
- COS-P12.6 Discretionary development projects in the vicinity of permitted mining extraction sites or along existing haul routes shall record a notice of the right to mine against the property for which a discretionary permit is sought. The notice shall advise owners and subsequent interests in ownership that the existing mining operation has a permitted right to continued mining operations.
- COS-P12.7 Mined property shall be left in a condition suitable for reuse in conformance with the General Plan land use designations and in accordance with the California Surface Mining and Reclamation Act (SMARA).

Butte County Surface Mining and Reclamation Ordinance

Butte County adopted an updated version of its Surface Mining and Reclamation Ordinance (Article 2 of Chapter 13 of the Butte County Municipal Code) on October 11, 2011. This update included changes to ensure compliance with the California Surface Mining and Reclamation Act. This Ordinance establishes standards and requirements for mining permits and reclamation plans in Butte County.

5.12.1.2 EXISTING CONDITIONS

Mining activities in Butte County focus on two industries: sand and gravel, and gold. Table 5.12-1, *Permitted Mines in Butte County,* contains a list of mines in the county and Figure 5.12-1, *Mining Activities,* maps the sites. Although other mineral resources have been or are extracted in Butte County, sand and gravel plays the greatest role in the county's economy.



Source: Butte County General Plan 2030 Setting & Trends Report, 2021.

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Scale (Miles)

Figure 5.12-1
Mining Activities

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TABLE 5.12-1 PERMITTED MINES IN BUTTE COUNTY

Mine Name	Permit No.	State ID No.	Commodity
Power House Mine	MIN09-0001	91-04-0034	Sand, Gravel
Wildlife Area	UP 91-04	91-04-0004	Sand, Gravel
Robinson Pit	RP 78-96	91-04-0005	Sand, Gravel
Statelands Mine	MRP 86-38	91-04-0008	Sand, Gravel
Vance Avenue 2 Mine	MIN18-0003	91-04-0021	Sand, Gravel
Vance Avenue 1 Mine	UP 77-96	91-04-0007	Sand, Gravel
Almond Avenue Mine	Vested	91-04-0018	Sand, Gravel
Morris Ravine Quarry	UP 93-36, MIN15-0001	91-04-0015	Sand, Rock
Table Mountain Quarry	MIN 04-01	91-04-0011	Rock, Crushed Rock
Daimler Rock	MIN 98-02	91-04-0028	Gravel
Pentz Pit	Vested	91-04-0001	Sand, Gravel
Lucky 7 Pit	MRP 94-63	91-04-0014	Sand, Gravel
Bangor Rock Quarries Site B	UP 88-35 (A)	91-04-0002	Rock, Crushed Rock
Bangor Rock Quarries Site A	UP 88-35 (A)	91-04-0006	Rock, Crushed Rock
Dunstone Quarry	MRP 84-33	91-04-0019	Sand, Gravel
Blue Lead Mine	MRP 81-43	91-04-0020	Gold
New Carr Mine	MIN11-0001	91-04-0038	Gold
Little Chico Creek Mine	MIN18-0002	91-04-0030	Rock, Crushed Rock

Source: Butte County Department of Development Services, April 2021.

Aggregate resources, such as sand and gravel, are used extensively in all types of construction: residential, commercial and industrial, roads and highways, dams, and bridges.

The State Geologist has not yet mapped the mineral resources in Butte County. However, public or private entities can petition the State Mining and Geology Board (SMGB) to classify specific lands that contain significant mineral deposits and that are threatened by land use incompatibilities.

In 1994, the SMGB received a Petition for Mineral Classification for Martin Marietta Materials Table Mountain Quarry near Oroville. This petition involves approximately 320 acres of land that is considered an active basalt mine. The SMGB concluded that part of this mine is classified as a mineral resource of regional or statewide significance and designated the site MRZ-2.

In addition, in 2001, the State classified a portion of the M&T Chico Ranch, a previously proposed mining site adjacent to Little Chico Creek and five miles southwest of Chico, as a mineral resource of regional or statewide significance (MRZ-2). However, the M&T Chico Ranch mine proposal was not approved and the site is not currently being considered for mining under County permit.

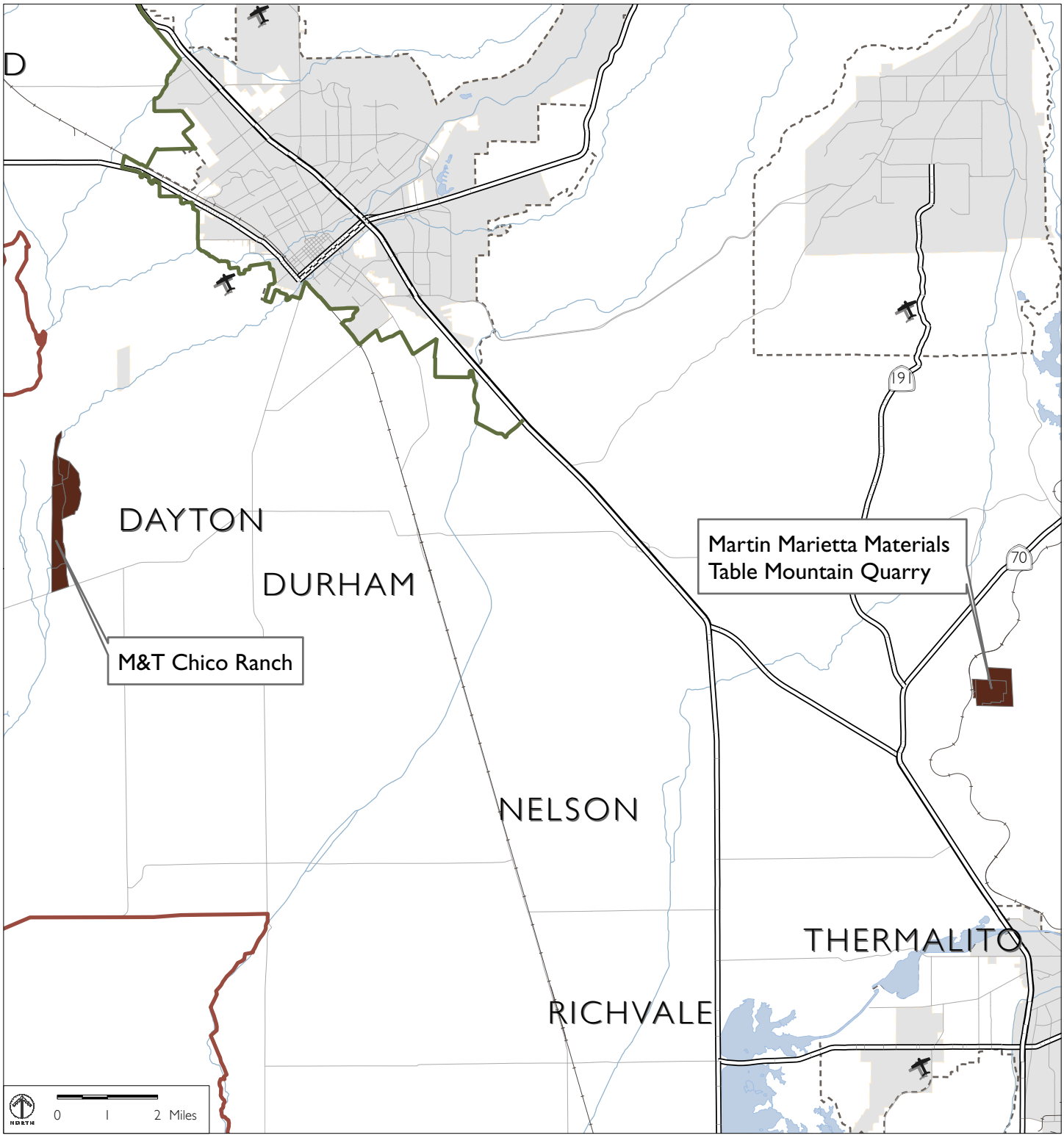
The State Geologist classified an additional site MRZ-2 in December 2010, indicating that significant mineral deposits are present or likely to exist. This site is south of Oroville along Highway 70 and the Feather River. This classification was made in response to a Petition for Mineral Classification by the Granite Construction Company for the site. The 460-acre Power House Aggregate Project site has been classified MRZ-2 for construction aggregate (CGS 2021).

These mineral resource areas, as well as other mineral resource zone sites in the County are shown on Figure 5.12-2, *Mineral Resource Zone Sites in Butte County*.

Butte County had an estimated population of 201,608 in 2022, which decreased by 2.4 percent from the 2021 estimate of 206,640 (DOF 2022). The mining of aggregate and rock resources provides a regionally significant source of construction materials within close proximity to a local need. Because sand, rock, and gravel are expensive to transport, construction and development are aided when substantial quantities of these materials are close by.

The primary economic benefit to the County from aggregate resources comes from property and sales taxes. Property taxes are set by State law, including Proposition 13, which generally limits property taxes to approximately 1 percent of a parcel's appraised value at the time of sale and limits annual increases to no more than 2 percent, except when property changes ownership or undergoes new construction. If the parcel contains mineral resources, the County imposes minimal additional property taxes. A sales tax is usually levied at the general sales tax rate based on 7.25 percent of the total sales dollars (DTFA 2021). It should be noted that a sales tax is incurred only when a sale is made to the public, not when a raw material is sold to a producer.

Butte County also benefits from jobs in mining. Although the commercial extraction of sand and gravel, hard rock, and gold are not labor intensive, it contributes to the county's economic output. However, the number of jobs associated with mining is minimal. Based on California Employment Development Department projections from 2018 to 2028, the number of people employed in construction, mining, and logging in Butte County was projected to rise from 4,300 to 4,800 (EDD 2022). Based on the most accurate information available, there are 17 permitted mines in Butte County.



Source: Butte County GIS, 2009.

Figure 5.12-2
Mineral Resource Zone Sites in Butte County

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5.12.2 STANDARDS OF SIGNIFICANCE

The proposed project would result in a significant mineral resources impact 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?
2. Result in the loss of availability of locally-important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?
3. In combination with past, present, and reasonably foreseeable projects, result in cumulative impacts with respect to mineral resources.

5.12.3 PROPOSED GENERAL PLAN POLICIES

The following are relevant policies of the Butte County General Plan Update, which may contribute to the protection of mineral resources as a result of implementation of the proposed project.

Conservation and Open Space Element

- COS-P13.2: Mineral resources identified by the State to be of regional or statewide significance for mineral resource extraction shall be conserved.
- COS-P13.3: Permitted uses on lands containing and adjacent to important mineral resources shall be restricted to those compatible with mineral extraction, except in cases where such uses offer public benefits that outweigh those of resource extraction.
- COS-P13.4: Prior to approval of any new or expanded mining operation, the applicant shall demonstrate that the operation will not create significant nuisances, hazards, or adverse environmental effects.
- COS-P13.5: New mineral haul routes shall avoid landslides, highly erodible soils, residential areas, and schools, when feasible.
- COS-P13.6: Discretionary development projects in the vicinity of permitted mining extraction sites or along existing haul routes shall record a notice of the right to mine against the property for which a discretionary permit is sought. The notice shall advise owners and subsequent interests in ownership that the existing mining operation has a permitted right to continued mining operations.
- COS-P13.7: Mined property shall be left in a condition suitable for reuse in conformance with the General Plan land use designations and in accordance with the California Surface Mining and Reclamation Act (SMARA).

5.12.4 IMPACT DISCUSSION

MR-1	The proposed project would not result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state.

General Plan 2040

The State Geologist has yet to map the mineral resources in Butte County. However, as a result of petitions from private entities, the State Mining and Geology Board has designated two sites as MRZ-2 in Butte County. These sites are designated for agriculture in the General Plan Update land use map. The agriculture designation precludes significant development on these sites that would result in the loss of the resource.

In addition, the General Plan Update contains policies that address the protection of mineral resources within Butte County. Conservation and Open Space Element Policy COS-P13.2 states that mineral resources identified by the State to be of regional or statewide significance for mineral resource extraction shall be conserved, and Policy COS-P13.3 states that permitted uses on lands containing and adjacent to important mineral resources shall be restricted to those compatible with mineral extraction, except where such uses offer public benefits that outweigh those of resource extraction.

The proposed General Plan policies discussed above would ensure that potential mineral resource impacts would be less than significant.

Level of Significance Before Mitigation: MR-1 would be less than significant.

Mitigation Measures

No mitigation measures are required.

Upper Ridge Community Plan

As discussed in Chapter 3, *Project Description,* the Upper Ridge Community Plan would increase development potential in the Upper Ridge community by redesignating 28 parcels from Retail and Office to Mixed-use land uses in the Old Magalia and Magalia Center neighborhoods. Potential future development in the Upper Ridge community would not result in the loss of availability of a known mineral resource; the two sites designated MRZ-2 in the county are not within the Upper Ridge community. Therefore, no impacts would occur.

Level of Significance Before Mitigation: MR-1 would be less than significant.

Mitigation Measures

No mitigation measures are required.

MR-2	The proposed project 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.

General Plan 2040

As indicated above, Butte County has not yet been mapped by the State Geologist to locate all mineral resources in the county, but two sites were designated MRZ-2 by the State. Because the M&T Chico Ranch mine proposal was not approved, that site is not currently being considered for mining under County permit. Regardless, none of these sites would be affected by the proposed General Plan because these sites would maintain their designation of agriculture, and as such, their mineral reserves would not be lost. Therefore, impacts would be less than significant.

Level of Significance Before Mitigation: MR-2 would be less than significant.

Mitigation Measures

No mitigation measures are required.

Upper Ridge Community Plan

As discussed in Chapter 3, *Project Description,* the Upper Ridge Community Plan would increase development potential in the Upper Ridge community by redesignating 28 parcels from Retail and Office to Mixed-use land uses in the Old Magalia and Magalia Center neighborhoods. Potential future development in the Upper Ridge community would not result in the loss of availability of a known mineral resource; the two sites designated as MRZ-2 in the county are not in the Upper Ridge community, and these sites are designated for agricultural use. Therefore, no impacts would occur.

Level of Significance Before Mitigation: MR-2 would be less than significant.

Mitigation Measures

No mitigation measures are required.

5.12.5 CUMULATIVE IMPACTS

MR-3	The proposed project, in combination with past, present, and reasonably foreseeable projects, would not result in less-than-significant cumulative impacts with respect to mineral resources.

Development outside of Butte County could occur in areas with significant mineral resources, and preclude potential future mining by rendering the resource inaccessible or by establishing urban uses incompatible with mining operation. However, due to strong protections in State law, the vast majority of the region's

potential mineral deposits are expected to remain available for potential mining into the foreseeable future, should site-specific evaluations determine them to be significant and economic.

Overall, development in the region would not contribute to an overall loss in the availability of a known mineral resource that would be of value to the region or State. Therefore, the cumulative mineral resource impact would be less than significant.

Level of Significance Before Mitigation: MR-3 would be less than significant.

Mitigation Measures

No mitigation measures are required.

5.13 REFERENCES

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5.13 NOISE

This chapter discusses the regulatory framework and existing conditions related to noise, evaluates potential noise and vibration impacts associated with the project, and provides mitigation to reduce noise and vibration impacts at sensitive locations. Modeling data is included Appendix 5.13-1 to this Draft EIR.

5.13.1 ENVIRONMENTAL SETTING

5.13.1.1 GLOSSARY

The following are brief definitions of terminology used in this section:

- **Sound:** A disturbance created by a vibrating object, which when transmitted by pressure waves through a medium such as air, is capable of being detected by the human ear or a microphone.
- **Noise:** Sound that is loud, unpleasant, unexpected, or otherwise undesirable to a person or persons.
- **Decibel (dB).** A unitless measure of sound on a logarithmic scale.
- **A-Weighted Decibel (dBA).** An overall frequency-weighted sound level in decibels that approximates the frequency response of the human ear.
- **Equivalent Continuous Noise Level (L_{eq}).** The mean of the noise level, energy averaged over the measurement period.
- **L_{max}.** The maximum root-mean-square noise level during a measurement period.
- **Statistical Sound Level (L_n).** The sound level that is exceeded "n" percent of time during a given sample period. For example, the L_{50} level is the statistical indicator of the time-varying noise signal that is exceeded 50 percent of the time (during each sampling period), which is half of the sampling time, the changing noise levels are above this value and half of the time they are below it. This is called the "median sound level." The L_{10} level, likewise, is the value that is exceeded 10 percent of the time (i.e., near the maximum) and this is often known as the "intrusive sound level." The L_{90} is the sound level exceeded 90 percent of the time and is often considered the "effective background level" or "residual noise level."
- **Day-Night Sound Level (L_{dn} or DNL).** The energy-average of the A-weighted sound levels occurring during a 24-hour period, with 10 dB penalty added to sound levels occurring during the period from 10:00 pm to 7:00 am.
- **Community Noise Equivalent Level (CNEL).** The energy-average of the A-weighted sound levels occurring during a 24-hour period, with 5 dB penalty added to the levels occurring during the period from 7:00 pm to 10:00 pm, and 10 dB penalty added to the sound levels occurring during the period from 10:00 pm to 7:00 am. Note: For general community/environmental noise, CNEL and L_{dn} values rarely differ by more than 1 dB. As a matter of practice, L_{dn} and CNEL values are considered to be equivalent/interchangeable and are treated therefore in this assessment.
- **Peak Particle Velocity (PPV)**. The peak rate of speed at which soil particles move (e.g., inches per second) due to ground vibration.

- **Sensitive Receptor.** Noise- and vibration-sensitive receptors include land uses where quiet environments are necessary for enjoyment and public health and safety. Residences, schools, motels and hotels, libraries, religious institutions, hospitals, and nursing homes are some examples.

5.13.1.2 SOUND FUNDAMENTALS

Sound is a pressure wave transmitted through the air. It is described in terms of loudness or amplitude (measured in decibels), frequency or pitch (measured in Hertz [Hz] or cycles per second), and duration (measured in seconds or minutes). The standard unit of measurement of the loudness of sound is the decibel (dB). The human ear is not equally sensitive to all frequencies. Sound waves below 16 Hz are not heard at all and are "felt" more as a vibration. Similarly, while people with extremely sensitive hearing can hear sounds as high as 20,000 Hz, most people cannot hear above 15,000 Hz. In all cases, hearing acuity falls off rapidly above about 10,000 Hz and below about 200 Hz. Since the human ear is not equally sensitive to sound at all frequencies, a special frequency dependent rating scale is usually used to relate noise to human sensitivity. The A-weighted decibel scale (dBA) performs this compensation by weighting frequencies in a manner approximating the sensitivity of the human ear.

Changes of 1 to 3 dBA are detectable under quiet, controlled conditions and changes of less than 1 dBA are usually indiscernible. A 3 dBA change in noise levels is considered the minimum change that is detectable with human hearing in outside environments. A change of 5 dBA is readily discernable to most people in an exterior environment whereas a 10 dBA change is perceived as a doubling (or halving) of the sound.

Noise is defined as unwanted sound, and is known to have several adverse effects on people, including hearing loss, speech and sleep interference, physiological responses, and annoyance. Based on these known adverse effects of noise, the federal government, the State of California, and many local governments have established criteria to protect public health and safety and to prevent disruption of certain human activities.

Sound Measurement

Sound pressure is measured through the A-weighted measure to correct for the relative frequency response of the human ear. That is, an A-weighted noise level de-emphasizes low and very high frequencies of sound similar to the human ear's de-emphasis of these frequencies.

Unlike linear units such as inches or pounds, decibels are measured on a logarithmic scale, representing points on a sharply rising curve. On a logarithmic scale, an increase of 10 dBA is 10 times more intense than 1 dBA, 20 dBA is 100 times more intense, and 30 dBA is 1,000 times more intense. A sound as soft as human breathing is about 10 times greater than 0 dBA. The decibel system of measuring sound gives a rough connection between the physical intensity of sound and its perceived loudness to the human ear. Ambient sounds generally range from 30 dBA (very quiet) to 100 dBA (very loud).

Sound levels are generated from a source and their decibel level decreases as the distance from that source increases. Sound dissipates exponentially with distance from the noise source. This phenomenon is known as "spreading loss." For a single point source, sound levels decrease by approximately 6 dBA for each doubling of distance from the source. This drop-off rate is appropriate for noise generated by on-site operations from stationary equipment or activity at a project site. If noise is produced by a line source, such

as highway traffic, the sound decreases by 3 dBA for each doubling of distance in a hard-site environment. Line source noise in a relatively flat environment with absorptive vegetation decreases by 4.5 dBA for each doubling of distance.

Time variation in noise exposure is typically expressed in terms of a steady-state energy level equal to the energy content of the time varying period (called L_{eq}), or alternately, as a statistical description of the sound level that is exceeded over some fraction of a given observation period. For example, the L_{50} noise level represents the noise level that is exceeded 50 percent of the time. Half the time the noise level exceeds this level and half the time the noise level is less than this level. This level is also representative of the level that is exceeded 30 minutes in an hour. Similarly, the L_2, L_8 and L_{25} values represent the noise levels that are exceeded 2, 8, and 25 percent of the time, or 1, 5, and 15 minutes per hour. These "Ln" values are typically used to demonstrate compliance for stationary noise sources with a city's or county's noise ordinance, as discussed below. Other values typically noted during a noise survey are the L_{min} and L_{max}. These values represent the minimum and maximum root-mean-square noise levels obtained over the measurement period.

Because community receptors are more sensitive to unwanted noise intrusion during the evening and at night, state law and local jurisdictions require that, for planning purposes, an artificial dBA increment be added to quiet time noise levels in a 24-hour noise descriptor called the Community Noise Equivalent Level (CNEL) or Day-Night Noise Level (L_{dn}). The CNEL descriptor requires that an artificial increment of 5 dBA (or penalty) be added to the actual noise level for the hours from 7:00 pm to 10:00 pm and 10 dBA for the hours from 10:00 pm to 7:00 am. The L_{dn} descriptor uses the same methodology except that there is no artificial increment added to the hours between 7:00 pm and 10:00 pm. Both descriptors give roughly the same 24-hour level (i.e., typically within 1 dBA of each other), with the CNEL being only slightly more restrictive (i.e., higher); therefore, they are used interchangeably in this assessment.

Psychological and Physiological Effects of Noise

Physical damage to human hearing begins at prolonged exposure to noise levels equal to or higher than 85 dBA. Exposure to high noise levels affects our entire system, with prolonged noise exposure in excess of 75 dBA increasing body tensions, thereby affecting blood pressure, functions of the heart, and the nervous system. Extended periods of noise exposure above 90 dBA can result in permanent hearing damage. When the noise level reaches 120 dBA, a tickling sensation occurs in the human ear even with short-term exposure. This level of noise is called the threshold of feeling. As the sound reaches 140 dBA, the tickling sensation becomes painful. This is called the threshold of pain. Table 5.13-1 shows typical noise levels from familiar noise sources.

TABLE 5.13-1 TYPICAL NOISE LEVELS

Common Outdoor Activities	Noise Level (dBA)	Common Indoor Activities
Onset of physical discomfort	120+	
	110	Rock Band (near amplification system)
Jet Flyover at 1,000 feet		
	100	
Gas Lawn Mower at three feet		
	90	
Diesel Truck at 50 feet, at 50 mph		Food Blender at 3 feet
	80	Garbage Disposal at 3 feet
Noisy Urban Area, Daytime		
	70	Vacuum Cleaner at 10 feet
Commercial Area		Normal speech at 3 feet
Heavy Traffic at 300 feet	60	
		Large Business Office
Quiet Urban Daytime	50	Dishwasher Next Room
Quiet Urban Nighttime	40	Theater, Large Conference Room (background)
Quiet Suburban Nighttime		
	30	Library
Quiet Rural Nighttime		Bedroom at Night, Concert Hall (background)
	20	
		Broadcast/Recording Studio
	10	
Lowest Threshold of Human Hearing	0	Lowest Threshold of Human Hearing

Source: Caltrans 2013a.

5.13.1.3 VIBRATION FUNDAMENTALS

Vibration is an oscillating motion. Like noise, vibration is transmitted in waves, but through earth or solid objects. Unlike noise, vibration is typically felt rather than heard.

Vibration can be either natural—e.g., from earthquakes, volcanic eruptions, landslides—or human-made, such as from explosions, heavy machinery, or trains. Both natural and human-made vibration may be continuous, such as from operating machinery, or impulsive, as from an explosion.

As with noise, vibration can be described by both its amplitude and frequency. Amplitude can be characterized in three ways—displacement, velocity, and acceleration. Particle displacement is a measure of the distance that a vibrated particle travels from its original position. Particle velocity is the rate of speed at which the particles move in inches per second (in/sec) or millimeters per second. Table 5.13-2 presents the human reaction to various levels of PPV.

TABLE 5.13-2 HUMAN REACTION TO TYPICAL VIBRATION LEVELS

Vibration Level Peak Particle Velocity (in/sec)	Vibration Damage	Vibration Annoyance
0.006–0.019	Vibrations unlikely to cause damage of any type	Threshold of perception, possibility of intrusion
0.08	Recommended upper level of vibration to which ruins and ancient monuments should be subjected	Vibrations readily perceptible
0.10	Virtually no risk of "architectural" (i.e., not structural) damage to normal buildings	Level at which continuous vibration begins to annoy people
0.20	Threshold at which there is a risk to "architectural" damage to normal dwelling, i.e., houses with plastered walls and ceilings	Vibrations annoying to people in buildings
0.4–0.6	Vibrations at a greater level than normally expected from traffic, but would cause "architectural" damage and possibly minor structural damage	Vibrations considered unpleasant by people subjected to continuous vibrations and unacceptable to some people walking on bridges

Source: Caltrans 2013b.

In addition to PPVs, vibrations also vary in frequency, and this affects perception. Typical construction vibrations fall in the 10 to 30 Hz range and usually occur around 15 Hz. Traffic vibrations exhibit a similar range of frequencies; however, due to their suspension systems, buses often generate frequencies around 3 Hz at high vehicle speeds. It is less common, but possible, to measure traffic frequencies above 30 Hz.

For vibration annoyance from operational sources, vibration is measured in vibration decibels or VdB. A measurement of 65 VdB would result in an impact to highly sensitive uses with vibration-sensitive equipment (e.g., microscopes in hospitals and research facilities) and a measurement of 72 VdB would result in an impact to residential uses.

5.13.1.4 REGULATORY FRAMEWORK

To limit population exposure to physically and/or psychologically damaging as well as intrusive noise levels, the federal government, the State of California, and local governments have established standards and ordinances to control noise.

Federal Regulations

Federal Highway Administration

Proposed federal or federal-aid highway construction projects at a new location, or the physical alteration of an existing highway that significantly changes either the horizontal or vertical alignment or increases the number of through-traffic lanes, requires an assessment of noise and consideration of noise abatement pursuant to Code of Federal Regulations Title 23, Part 772, "Procedures for Abatement of Highway Traffic Noise and Construction Noise." The Federal Highway Administration (FHWA) has adopted noise abatement criteria (NAC) for sensitive receivers such as picnic areas, recreation areas, playgrounds, active sports areas, parks, residences, motels, hotels, schools, churches, libraries, and hospitals—when "worst-hour" noise

levels approach or exceed 67 dBA L_{eq}. The California Department of Transportation (Caltrans) has further defined "approaching" the NAC to be 1 dBA below the NAC for noise sensitive receivers (e.g., 66 dBA L_{eq} is considered approaching the NAC) (Caltrans 2020).

United States Environmental Protection Agency

In addition to FHWA standards, the United States Environmental Protection Agency (EPA) has identified the relationship between noise levels and human response. The EPA has determined that over a 24-hour period, an L_{eq} of 70 dBA will result in some hearing loss. Interference with activity and annoyance will not occur if exterior levels are maintained at an L_{eq} of 55 dBA and interior levels at or below 45 dBA. While 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; therefore, they are not mandated.

The EPA has also set 55 dBA L_{dn} as the basic goal for exterior residential noise intrusion. However, other federal agencies, in consideration of their own program requirements and goals—as well as the difficulty of actually achieving a goal of 55 dBA L_{dn}—have settled on 65 dBA L_{dn} as their standard. At 65 dBA L_{dn}, activity interference is kept to a minimum, and annoyance levels are still low. It is also a level that can realistically be achieved.

Occupational Health and Safety Administration

The federal government regulates occupational noise exposure common in the workplace through the Occupational Safety and Health Administration under the EPA. Such limitations would apply to the operation of construction equipment and could also apply to any proposed industrial land uses. Noise exposure of this type is dependent on work conditions and is addressed through a facility's Health and Safety Plan, and is therefore not addressed further in this analysis.

United States Department of Housing and Urban Development

The United States Department of Housing and Urban Development (HUD) has set a goal of 65 dBA L_{dn} as a desirable maximum exterior standard for residential units developed under HUD funding. (This level is also generally accepted by the State of California.) While HUD does not specify acceptable interior noise levels, standard construction of residential dwellings typically provides in excess of 20 dBA of attenuation with the windows closed. Based on this premise, the interior L_{dn} should not exceed 45 dBA.

The Federal Aviation Administration Advisory Circular Number 150 5020 2, "Noise Assessment Guidelines for New Helicopters," recommends the use of a cumulative noise measure, the 24-hour equivalent sound level, or $L_{eq}(24)$, so that the relative contributions of the heliport and other sound sources in the community can be compared. The $L_{eq}(24)$ is similar to the L_{dn} used in assessing the impacts of fixed-wing aircraft. The helicopter $L_{eq}(24)$ values are obtained by logarithmically adding the sound exposure level values over a 24-hour period.

Public Law 96 193 also directs the Federal Aviation Administration to identify land uses that are "normally compatible" with various levels of noise from aircraft operations. Because of the size and complexity of many major hub airports and their operations, Federal Aviation Regulation Part 150 identifies a large number of land uses and their attendant noise levels.

State Regulations

General Plan Guidelines

The State of California, through its general plan guidelines, discusses how ambient noise should influence land use and development decisions and includes a table of normally acceptable, conditionally acceptable, normally unacceptable, and clearly unacceptable uses at different noise levels, expressed in CNEL. A conditionally acceptable designation implies new construction or development should be undertaken only after a detailed analysis of the noise reduction requirements for each land use and needed noise insulation features are incorporated in the design. By comparison, a normally acceptable designation indicates that standard construction can occur with no special noise reduction requirements. The general plan guidelines provide local jurisdictions with recommended community noise and land use compatibility standards that can be adopted or modified at the local level based on conditions and types of land uses specific to that jurisdiction.

California Building Code

The California Building Code (CBC) is Title 24 of the California Code of Regulations. CBC Part 2, Volume 1, Chapter 12, Section 1206.4, Allowable Interior Noise Levels, requires that interior noise levels attributable to exterior sources not exceed 45 dBA in any habitable room. The noise metric is evaluated as either the L_{dn} or the CNEL, whichever is consistent with the noise element of the local general plan.

The State of California's noise insulation standards for non-residential uses are codified in the California Code of Regulations, Title 24, Building Standards Administrative Code, Part 11, California Green Building Standards Code (CALGreen). CALGreen noise standards are applied to new or renovation construction projects in California to control interior noise levels resulting from exterior noise sources. Proposed projects may use either the prescriptive method (Section 5.507.4.1) or the performance method (5.507.4.2) to show compliance. Under the prescriptive method, a project must demonstrate transmission loss ratings for the wall and roof-ceiling assemblies and exterior windows when located within a noise environment of 65 dBA CNEL or higher. Under the performance method, a project must demonstrate that interior noise levels do not exceed 50 dBA $L_{eq(1hr)}$.

Airport Noise Standards

California Code of Regulations Title 21, Subchapter 6, Airport Noise Standards, establishes 65 dBA CNEL as the acceptable level of aircraft noise for persons living in the vicinity of airports. Noise-sensitive land uses are generally incompatible in locations where the aircraft exterior noise level exceeds 65 dBA CNEL, unless an aviation easement for aircraft noise has been acquired by the airport proprietor or the residence is a high-rise with an interior CNEL of 45 dBA or less in all habitable rooms and has an air circulation or air conditioning system, as appropriate. Assembly Bill (AB) 2776 requires any person who intends to sell or

lease residential properties in an airport influence area to disclose that fact to the person buying the property.

Local Regulations

Butte County General Plan 2030

The following policies are included in the existing General Plan regarding aesthetics. The numbering is from the existing General Plan and therefore may not be consecutive.

Health and Safety Element

- Goal HS-1 Maintain an acceptable noise environment in all areas of the county.
    - HS-P1.1 New development projects proposed in areas that exceed the land use compatibility standards in Tables HS-2 and HS-3 shall require mitigation of noise impacts.
    - HS-P1.2 Noise from transportation sources shall not exceed land use compatibility standards in Table HS-2.
    - HS-P1.3 New noise-sensitive land uses shall not be located within the 55 Ldn contour of airports, roadways, and other noise-generating uses, with the exception of the Chico Municipal Airport.*
    - HS-P1.4 New noise-sensitive land uses shall not be located within the 60 Ldn contour of the Chico Municipal Airport.
    - HS-P1.5 Noise from new recreational activities and events shall not exceed 60 dB at the nearest noise sensitive land use.
    - HS-P1.6 Applicants proposing a new noise-producing development project near existing or planned noise-sensitive uses shall provide a noise analysis prepared by an acoustical specialist with recommendations for design mitigation.
    - HS-P1.7 Applicants for discretionary permits shall be required to limit noise-generating construction activities located within 1,000 feet of residential uses to daytime hours between 7:00 a.m. and 6:00 p.m. on weekdays and non-holidays.
    - HS-P1.8 Noise from generators shall be regulated near existing and future residential uses.
    - HS-P1.9 The following standard construction noise control measures shall be required at construction sites in order to minimize construction noise impacts:
        a. Equip all internal combustion engine driven equipment with intake and exhaust mufflers that are in good condition and appropriate for the equipment.
        b. Locate stationary noise-generating equipment as far as possible from sensitive receptors when sensitive receptors adjoin or are near a construction project area.

c. Utilize quiet air compressors and other stationary noise-generating equipment where appropriate technology exists and is feasible.

- HS-P1.9 To reduce impacts from groundborne vibration associated with rail operations, residences or other vibration-sensitive buildings shall be sited at least 100 feet from the centerline of the nearest railroad track whenever feasible. Development of vibration-sensitive buildings, such as those containing precision medical and industrial equipment or television, radio and recording studios, within 100 feet from the centerline of the nearest railroad track shall require a study demonstrating that groundborne vibration issues associated with rail operations have been adequately addressed through building siting or construction techniques.

Butte County Noise Ordinance

Chapter 41A, Noise Control, of the Butte County Code or also known as the Noise Control Ordinance finds excessive, unnecessary or offensive noise within the County that may be detrimental to the public health, safety, welfare, and the peace and quiet of the inhabitants of the County. The purpose of the Noise Control Ordinance is to assess complaints of noise alleged to exceed County standards and to address violations of these standards. Table 5.13-3, Maximum Allowable Noise Exposure, dBA, summarizes the exterior noise standards.

TABLE 5.13-3 MAXIMUM ALLOWABLE NOISE EXPOSURE, DBA

	Daytime 7:00 am to 7:00 pm		Evening 7:00 pm to 10:00 pm		Nighttime 10:00 pm to 7:00 am	
Land Use Designation	Hourly L_{eq}	Maximum Level, L_{max}	Hourly L_{eq}	Maximum Level, L_{max}	Hourly L_{eq}	Maximum Level, L_{max}
Urban	55	70	50	60	45	55
Non-Urban	50	60	45	55	40	50

Source: Butte County Code, Chapter 41A, Noise Control.

Notes:

- "Non-Urban designations" are Agriculture, Timber Mountain, Resource Conservation, Foothill Residential and Rural Residential. All other designations are considered "urban designations" for the purposes of regulating noise exposure.
- Each of the noise limits specified above shall be reduced by 5 dBA for recurring impulsive noise, simple or pure tone noise, or for noises consisting of speech or music.
- Noise level standards up to 5 dBA less than those specified above, based upon determination of existing low ambient noise levels in the vicinity of the project site may be imposed.
- In urban areas, the exterior noise level standard shall be applied to the property line of the receiving property. In non-urban areas, the exterior noise level standard shall be applied at a point 100 feet away from the residence or at the property line if the residence is closer than 100 feet. The above standards shall be measured only on property containing a noise sensitive land use.

Exemptions

The following activities shall be exempted from the Noise Control Ordinance:

- School bands, school athletic and school entertainment events between the hours of 7:00 a.m. to 10:00 p.m.

- Temporary activities such as outdoor gatherings, public dances, shows and sporting and entertainment events, provided said events are conducted pursuant to a license or permit by the County, between the hours of 7:00 a.m. to 10:00 p.m. unless otherwise set forth in the license or permit.
- Uses permitted in the Sports and Entertainment (SE) zone and Recreation Commercial Overlay (-REC) zone between the hours of 7:00 a.m. to 10:00 p.m.
- Activities conducted on parks, public playgrounds, and school grounds, provided such parks, playgrounds and school grounds are owned and operated by a public entity or private school between the hours of 7:00 a.m. to 10:00 p.m.
- Any mechanical device, apparatus or equipment related to or connected with emergency activities or emergency work.
- Noise sources associated with construction, repair, remodeling, demolition, paving or grading of any real property or public works project located within 1,000 feet of residential uses, provided said activities do not take place during the following time periods:
    - Sunset to sunrise on weekdays and nonholidays
    - Fridays 6:00 p.m. through 8:00 a.m. on Saturdays
    - Before 8:00 a.m. on holidays
    - Saturdays 6:00 p.m. through 10:00 a.m. on Sundays
    - Sundays after 6:00 p.m.

  However, when an unforeseen or unavoidable condition occurs during a construction project and the nature of the project necessitates that work in process be continued until a specific phase is completed, the contractor or owner shall be allowed to continue work into the hours delineated above and to operate machinery and equipment necessary to complete the specific work in progress until that specific work can be brought to conclusion under conditions which will not jeopardize inspection acceptance or create undue financial hardships for the contractor or owner.
- Noise sources associated with agricultural and timber management operations in zones permitting agricultural and timber management uses.
- All mechanical devices, apparatus or equipment which are utilized for the protection or salvage of agricultural crops during periods of adverse weather conditions or when the use of mobile noise sources is necessary for pest control.
- Noise sources associated with maintenance of residential area property, provided said activities take place between 7:00 a.m. to sunset on any day except Saturday, Sunday, or a holiday, or between the hours of 9:00 a.m. and 5:00 p.m. on Saturday, Sunday, or a holiday; and, provided machinery is fitted with correctly functioning sound suppression equipment.
- Any activity, to the extent provisions of Chapter 65 of Title 42 of the United States Code, and Articles 3 and 3.5 of Chapter 4 of Division 9 of the Public Utilities Code of the State of California preempt local control of noise regulations and land use regulations related to noise control of airports and their surrounding geographical areas, any noise source associated with the construction,

development, manufacture, maintenance, testing or operation of any aircraft engine, or of any weapons system or subsystems which are owned, operated or under the jurisdiction of the United States, or any other activity to the extent regulation thereof has been preempted by state or federal law or regulation.

- Any noise sources associated with the maintenance and operation of aircraft or airports which are owned or operated by the United States.
- Private recreational activities (including off-road vehicle operation and gunfire occurring while hunting or target practice consistent with all State laws on private property) taking place during daytime hours (9:00 a.m. to sunset) that does not exceed an L_{eq} of 65 dBA when measured at any point on the property line over any 30-minute period. Noise sources associated with agricultural and timber management operations in zones permitting agricultural and timber management uses.

Butte County Airport Land Use Compatibility Plan

The Butte County Airport Land Use Commission (ALUC) is charged with promoting land use compatibility around the county's airports, in order to minimize public exposure to excessive noise and safety hazards. The primary means by which this is accomplished is through the preparation and periodic update of an Airport Land Use Compatibility Plan (ALUCP) and reviewing the plans, regulations, and other actions of local agencies and airport operators for consistency with that plan. The most recent ALUCP was adopted in November of 2017 (BCALUC 2017). The ALUCP covers four airports in Butte County: Chico Municipal Airport, Oroville Municipal Airport, Paradise Skypark Airport, and Ranchaero Airport. Existing conditions for these airports are summarized below based on available data from the lasted adopted ALUCP.

5.13.1.5 EXISTING CONDTIONS

Major mobile noise sources in the county include roadway traffic, railroads, and airports. Roadway traffic is the most substantial source because the noise is constant as opposed to the periodic noise from railroads and airports.

Sensitive Receptors

Certain land uses, such as residences, schools, hospitals, senior housing, and recreational areas, are particularly sensitive to noise and vibration. These uses are regarded as sensitive because they are where people most frequently engage in activities that are likely to be disturbed by noise, such as reading, studying, sleeping, resting, or otherwise engaging in quiet or passive recreation. Commercial and industrial uses are not particularly sensitive to noise or vibration.

Traffic

The FHWA Highway Traffic Noise Prediction Model (FHWA-RD 77-108) was used to develop existing CNEL noise contours for all highways and major roadways in the General Plan study area from data provided by Fehr & Peers Transportation Consultants (see Appendix 5.13-1 for modeling data inputs). The FHWA model predicts noise levels through a series of adjustments to a reference sound level. These adjustments account for distances from the roadway, average daily traffic volumes, vehicle speeds, car/truck mix, number of

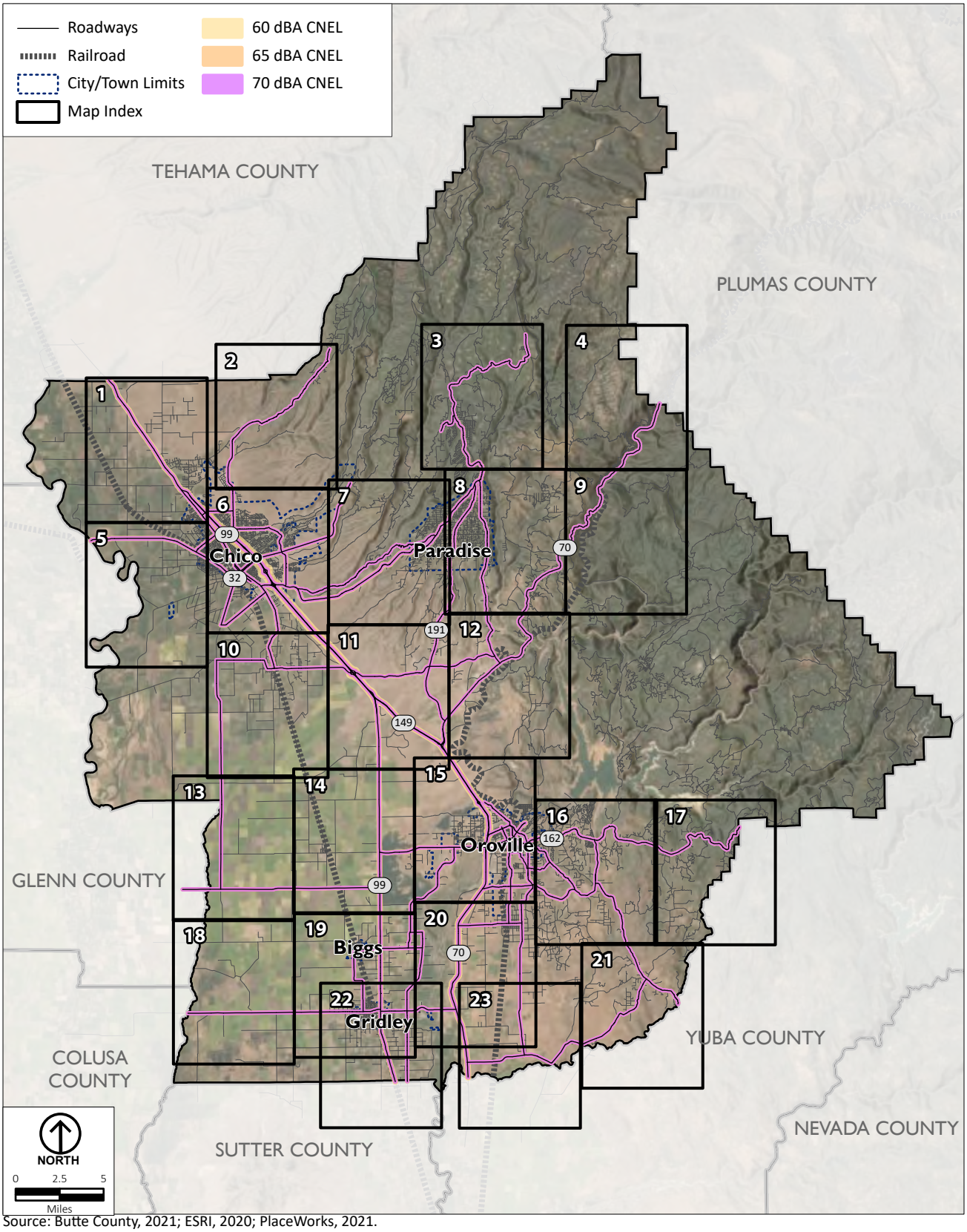
lanes, road widths, and day, evening, and night traffic percentage distribution. Existing (2018) roadway and highway 60, 65, and 70 dBA CNEL noise contours are shown on Figures 5.13-1 through 5.13-24. Tabulated existing traffic noise contour distances are found in Appendix 5.13-1.

In many cases, the actual distances to noise level contours at individual locations may vary from the distances predicted by the FHWA model. Factors such as roadway curvature, roadway grade, shielding from local topography or structures, elevated roadways, or elevated receivers may affect actual sound propagation. The distances reported in Figures 5.13-1 through 5.13-24 are considered conservative estimates of noise exposure along roadways in Butte County, suitable for a planning level document such as the General Plan.

Railroad

Existing railroad noise levels were projected using the Federal Transit Administration (FTA) CREATE rail noise model and the Federal Rail Administration Grade Crossing Horn Model, based on current freight and passenger train counts, day or night pass-bys, number of locomotives, number of rail cars, and speed. Day-night average noise levels vary throughout the community depending on the number of trains operating along a given rail line per day, the timing and duration of train pass-by events, and whether the receptor is near an at-grade crossing. When railroad trains approach a passenger station or at-grade crossing, they are required to sound their locomotive horn for 15 to 20 seconds not more than ¼ mile in advance. The required pattern is two long, one short, and one long sounding horn. The required volume level for train horns is between 96 and 110 dBA; the typical horn noise for Union Pacific Railroad (UPRR) freight trains is approximately 104 to 105 dBA at 100 feet. There are approximately 41 at-grade crossings on the Valley Subdivision and 7 at-grade crossings on the Sacramento-Canyon Subdivision where trains are required to blow their horns.

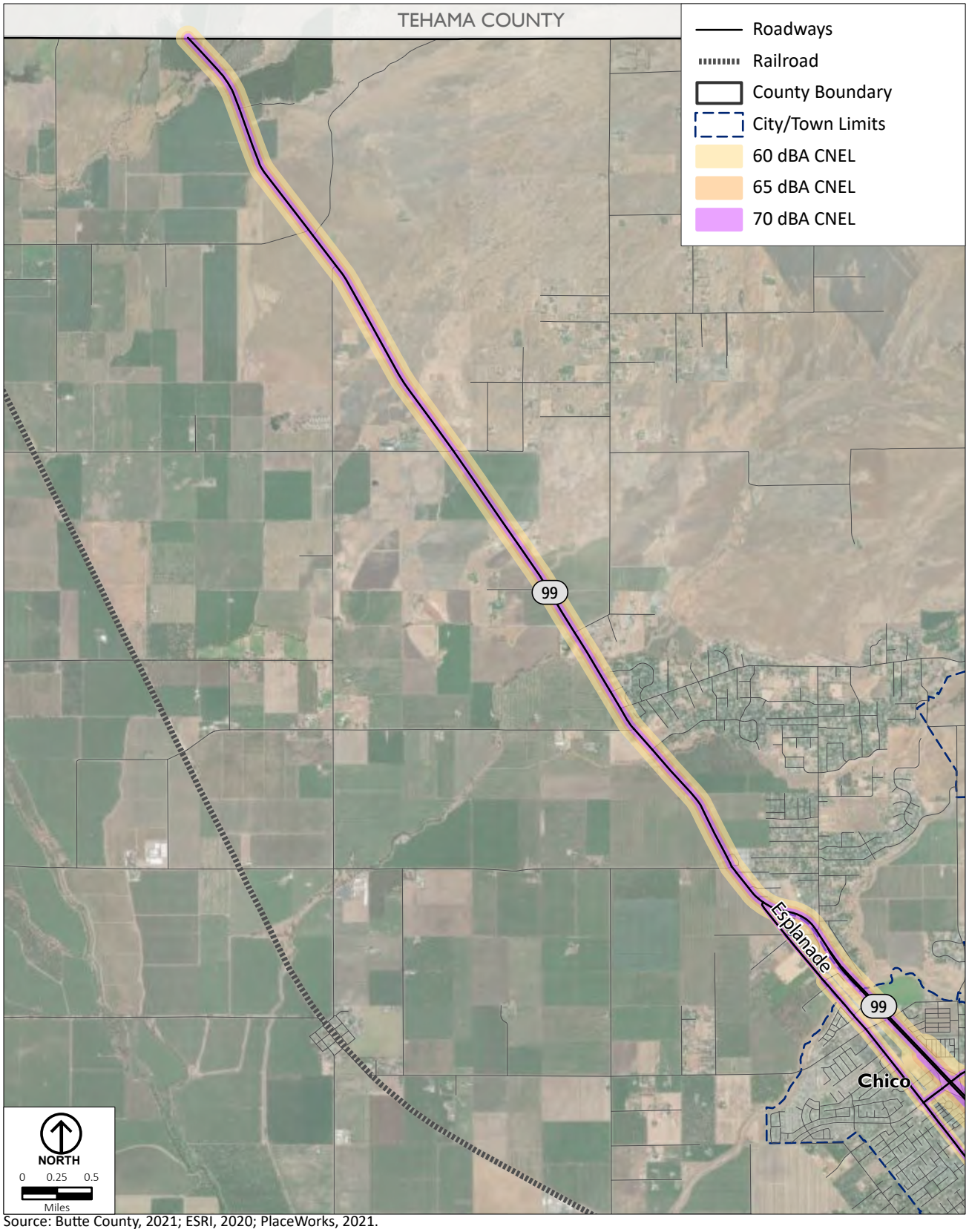
There are two main railroad lines that go through Butte County and both are owned and operated by UPRR. The UPRR line that runs parallel to State Route 99 is the Valley Subdivision. The UPRR line that parallels the Feather River to the east is split into two subdivisions. The Sacramento Subdivision runs from Butte County's southern border to Oroville where it becomes the Canyon Subdivision as it continues from Oroville along the Feather River. The Canyon Subdivision is more commonly known as the Feather River Route. Based on Federal Rail Administration data and track speed limits, it was assumed that there are six day trains and six night trains on the Valley Subdivision traveling at an average speed of 50 mph. On the Sacramento/Canyon Subdivision, the traffic consists almost entirely of freight trains (five day trains and five night trains) traveling at approximately 45 mph with an average of three locomotives and 100 cars. The exception is the Amtrak Coast Starlight. This passenger train travels three days a week at an approximate speed of 70 mph with two locomotives and 12 cars, and passes through Chico in the middle of the night between 1:37 a.m. and 4:12 a.m.



Source: Butte County, 2021; ESRI, 2020; PlaceWorks, 2021.

FIGURE 5.13-1

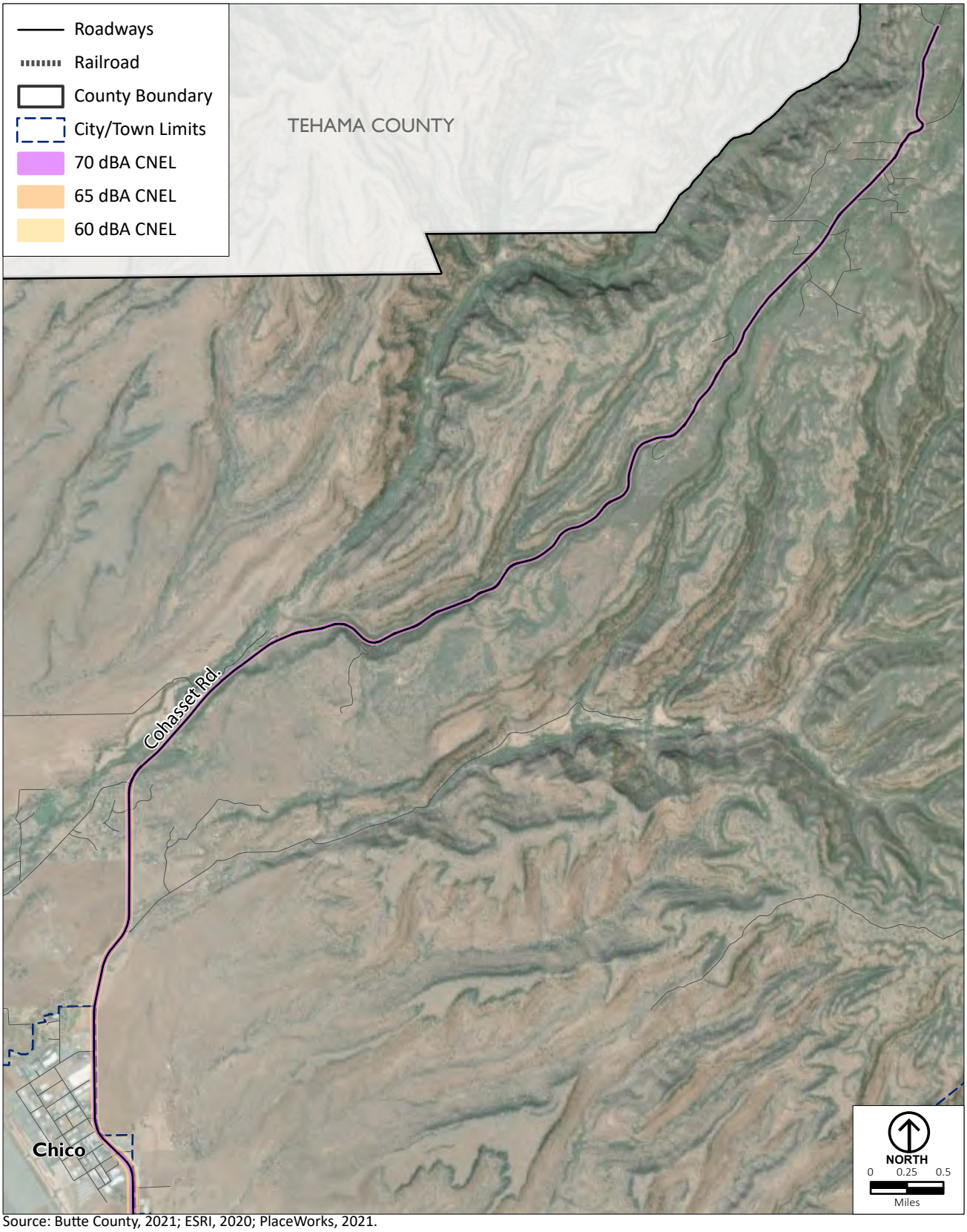
EXISTING NOISE CONTOURS (MAP INDEX)



Source: Butte County, 2021; ESRI, 2020; PlaceWorks, 2021.

FIGURE 5.13-2

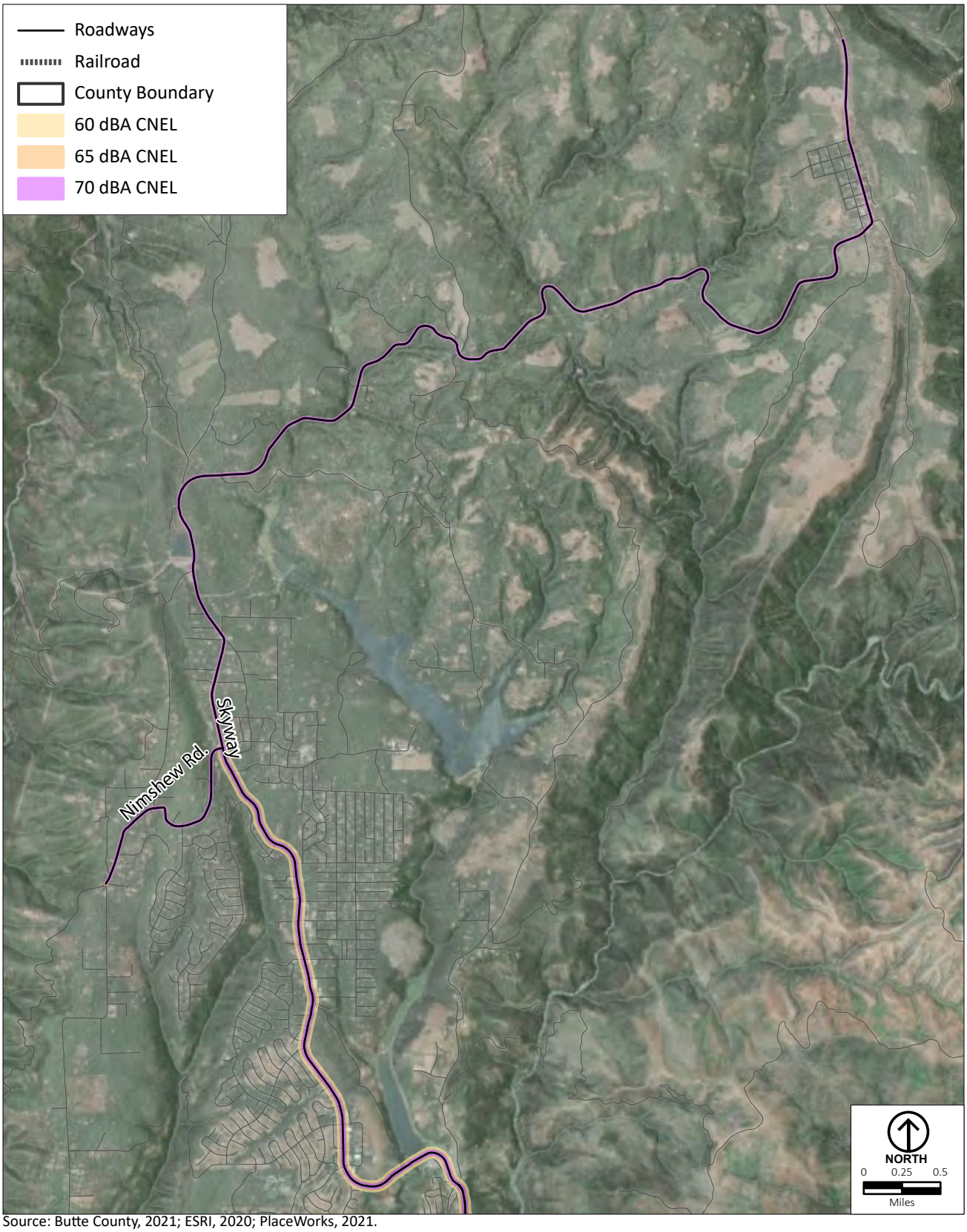
EXISTING TRAFFIC NOISE CONTOURS (MAP 1)



Source: Butte County, 2021; ESRI, 2020; PlaceWorks, 2021.

FIGURE 5.13-3

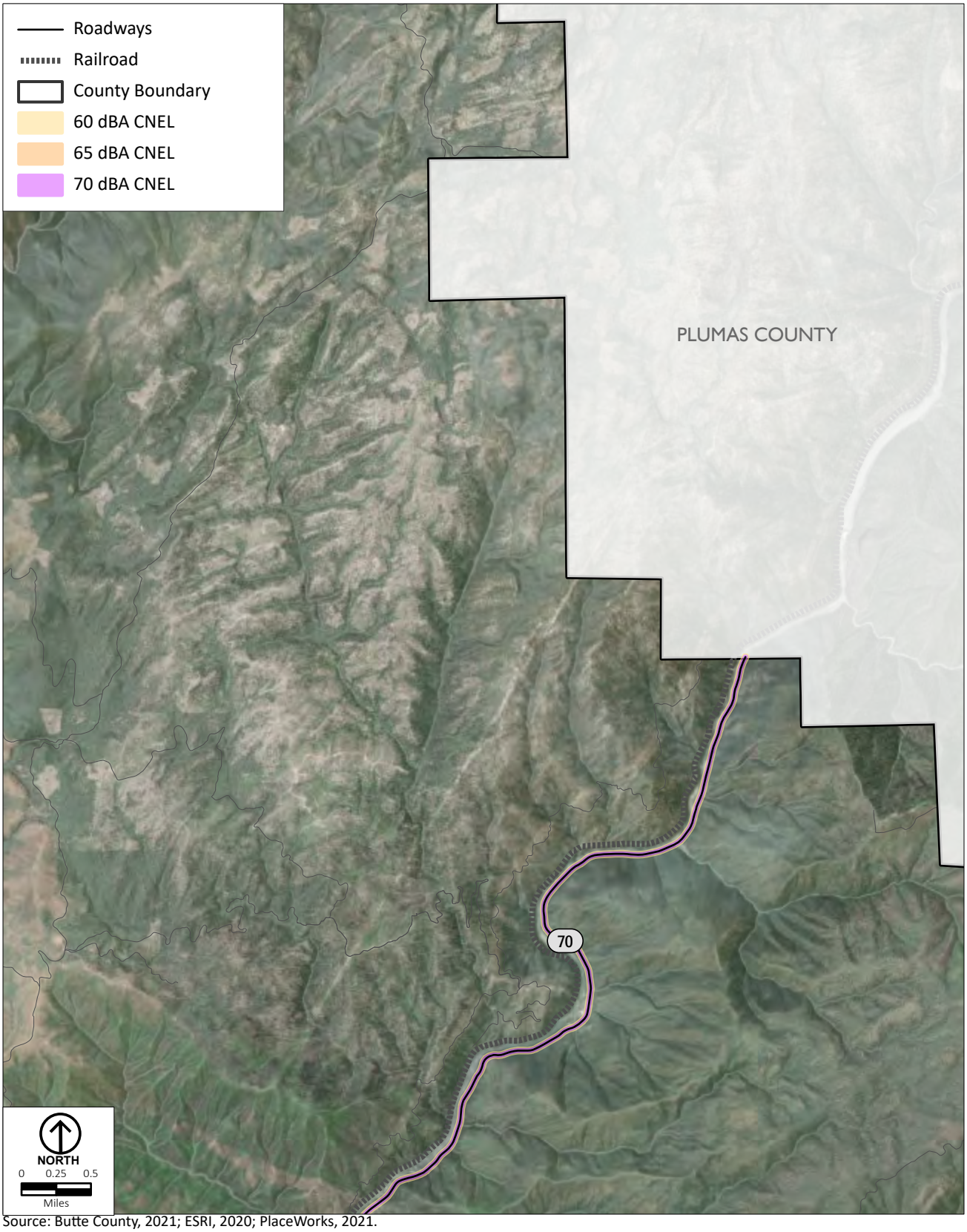
EXISTING TRAFFIC NOISE CONTOURS (MAP 2)



Source: Butte County, 2021; ESRI, 2020; PlaceWorks, 2021.

FIGURE 5.13-4

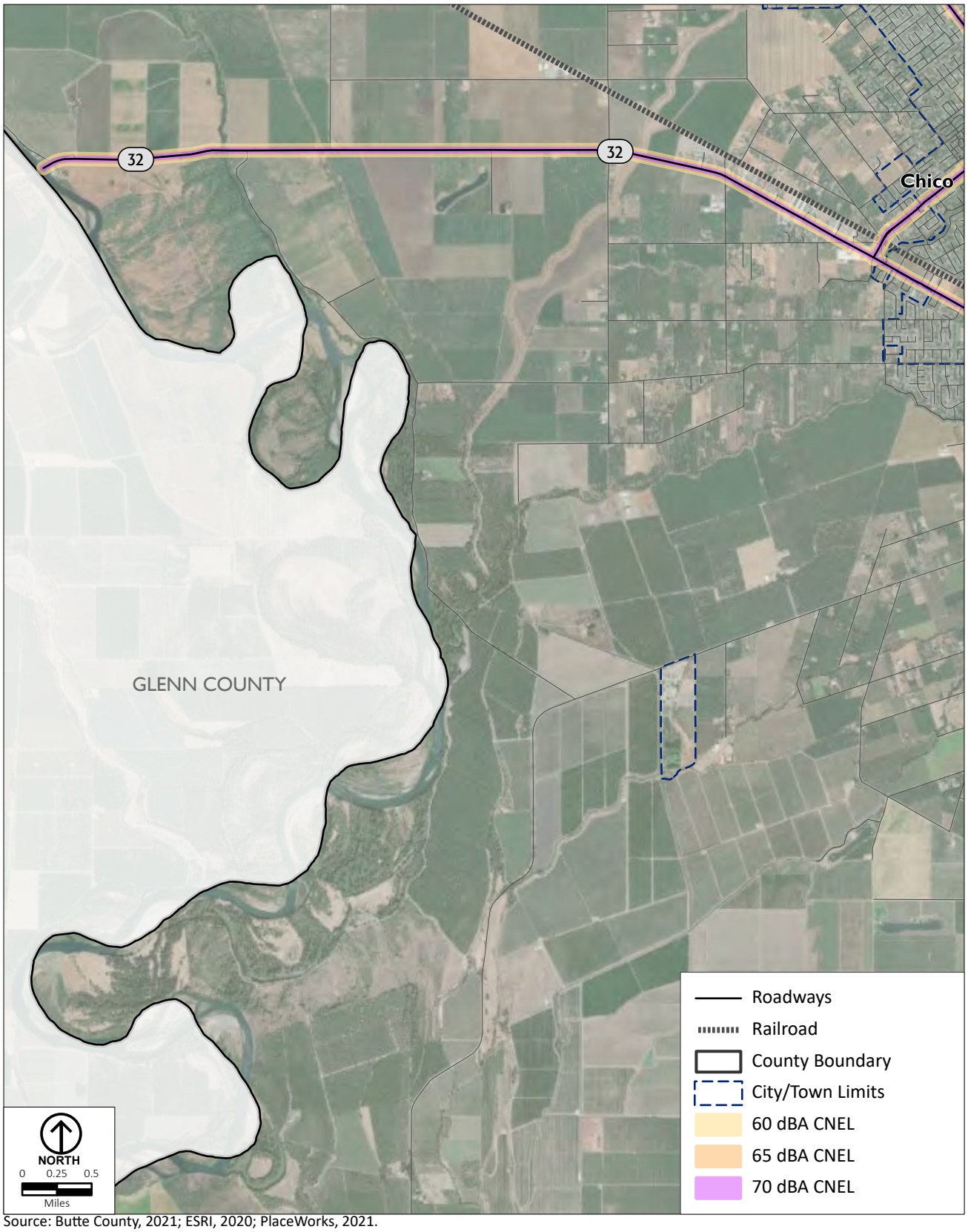
EXISTING TRAFFIC NOISE CONTOURS (MAP 3)



Source: Butte County, 2021; ESRI, 2020; PlaceWorks, 2021.

FIGURE 5.13-5

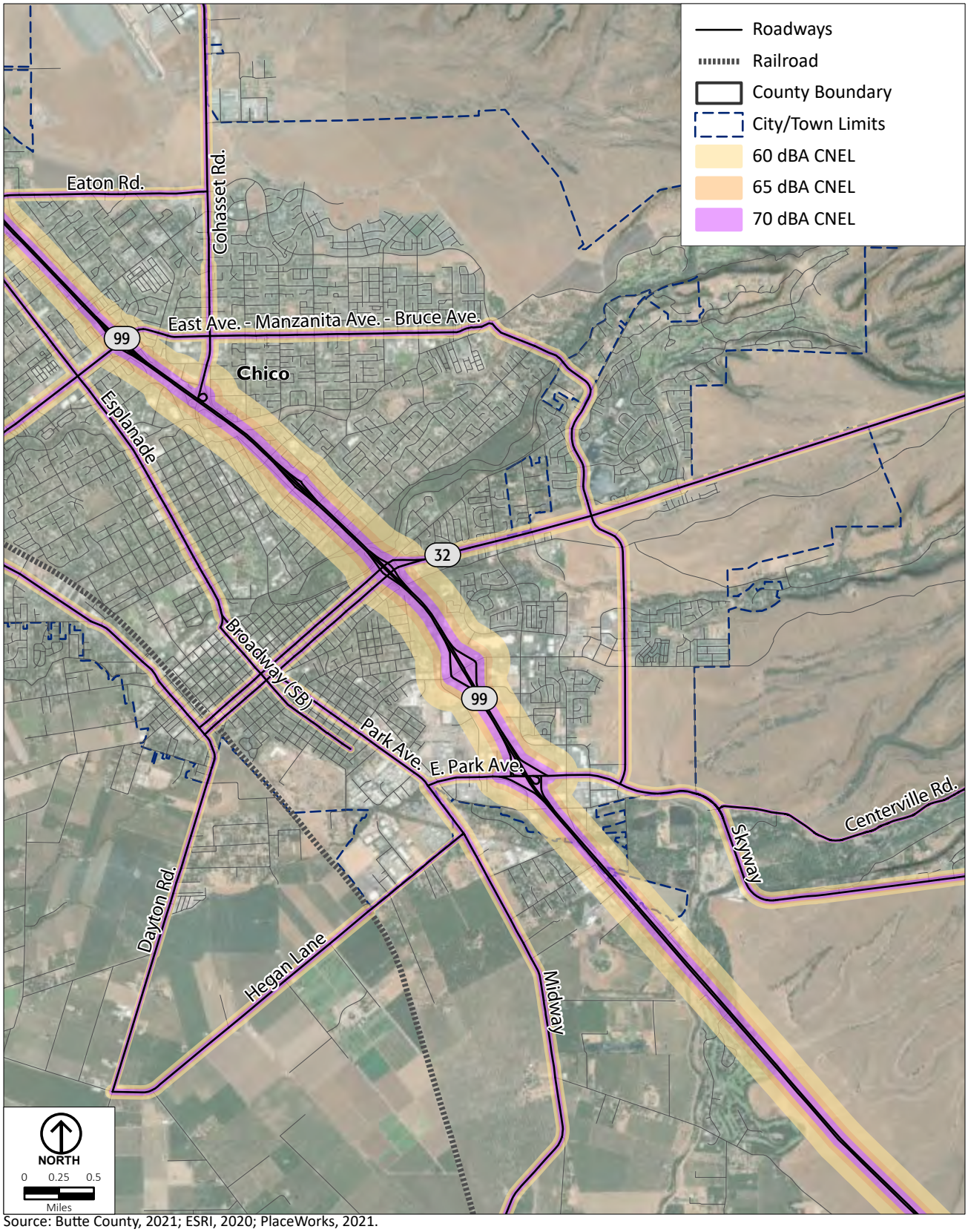
EXISTING TRAFFIC NOISE CONTOURS (MAP 4)



Source: Butte County, 2021; ESRI, 2020; PlaceWorks, 2021.

FIGURE 5.13-6

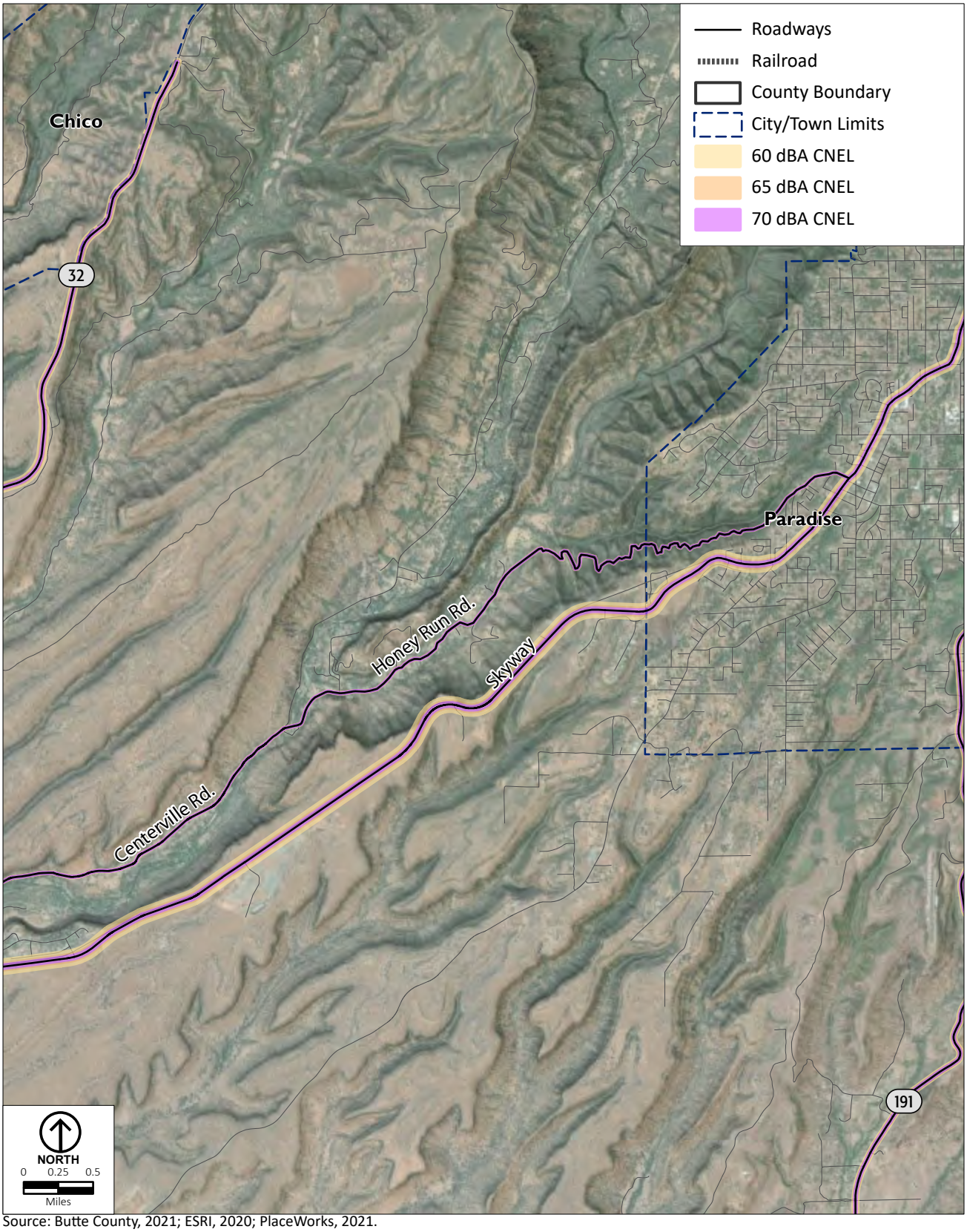
EXISTING TRAFFIC NOISE CONTOURS (MAP 5)



Source: Butte County, 2021; ESRI, 2020; PlaceWorks, 2021.

FIGURE 5.13-7

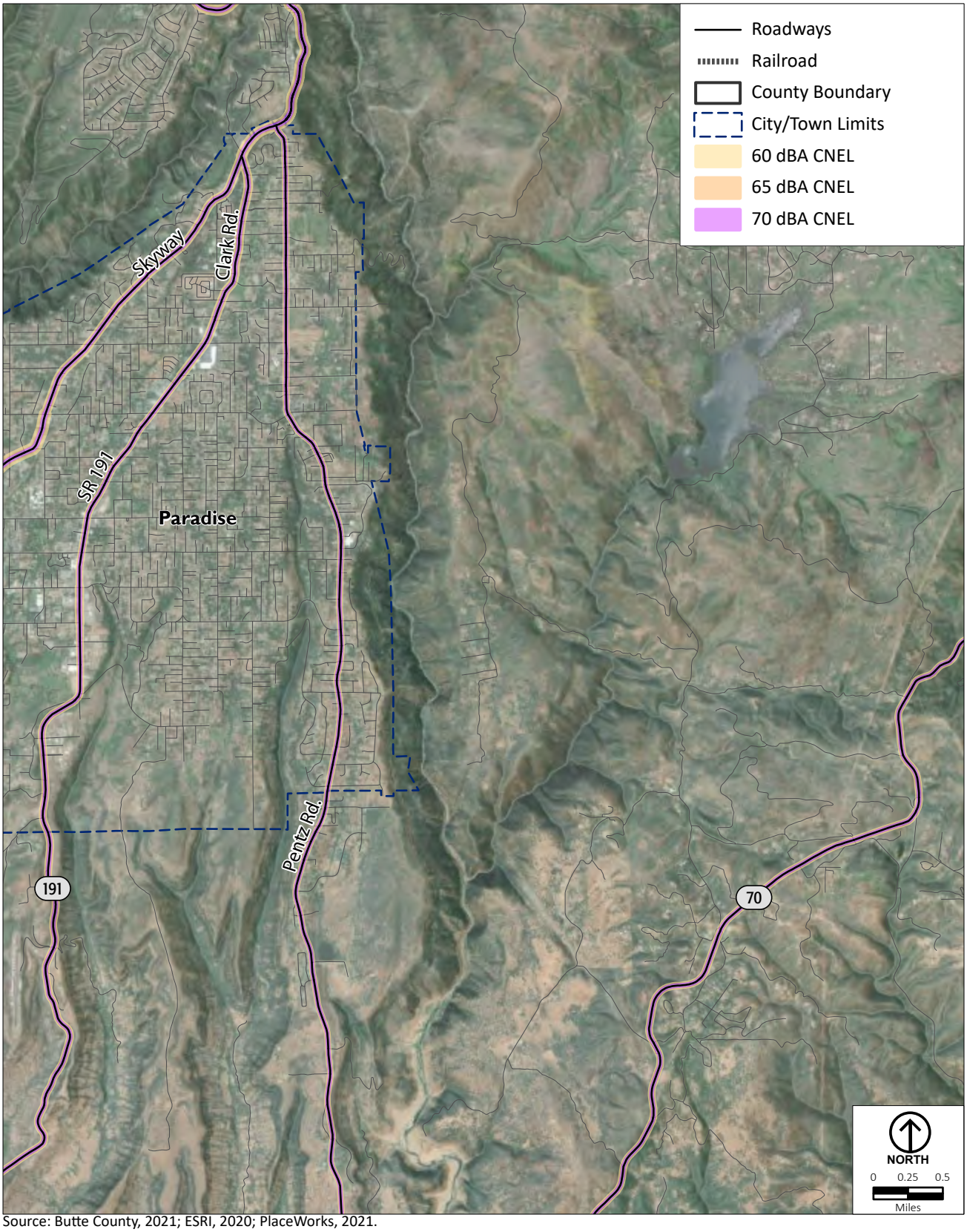
EXISTING TRAFFIC NOISE CONTOURS (MAP 6)



Source: Butte County, 2021; ESRI, 2020; PlaceWorks, 2021.

FIGURE 5.13-8

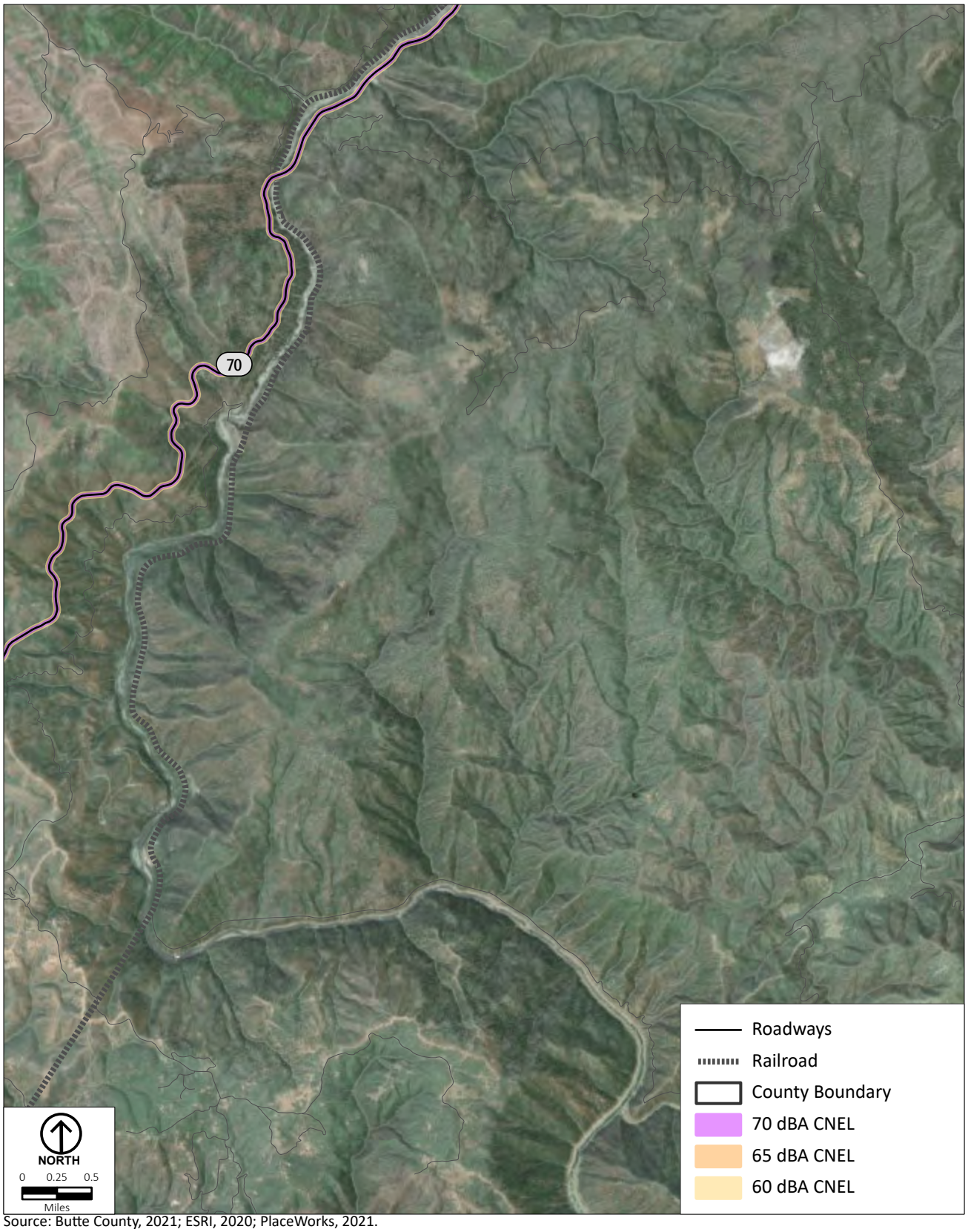
EXISTING TRAFFIC NOISE CONTOURS (MAP 7)



Source: Butte County, 2021; ESRI, 2020; PlaceWorks, 2021.

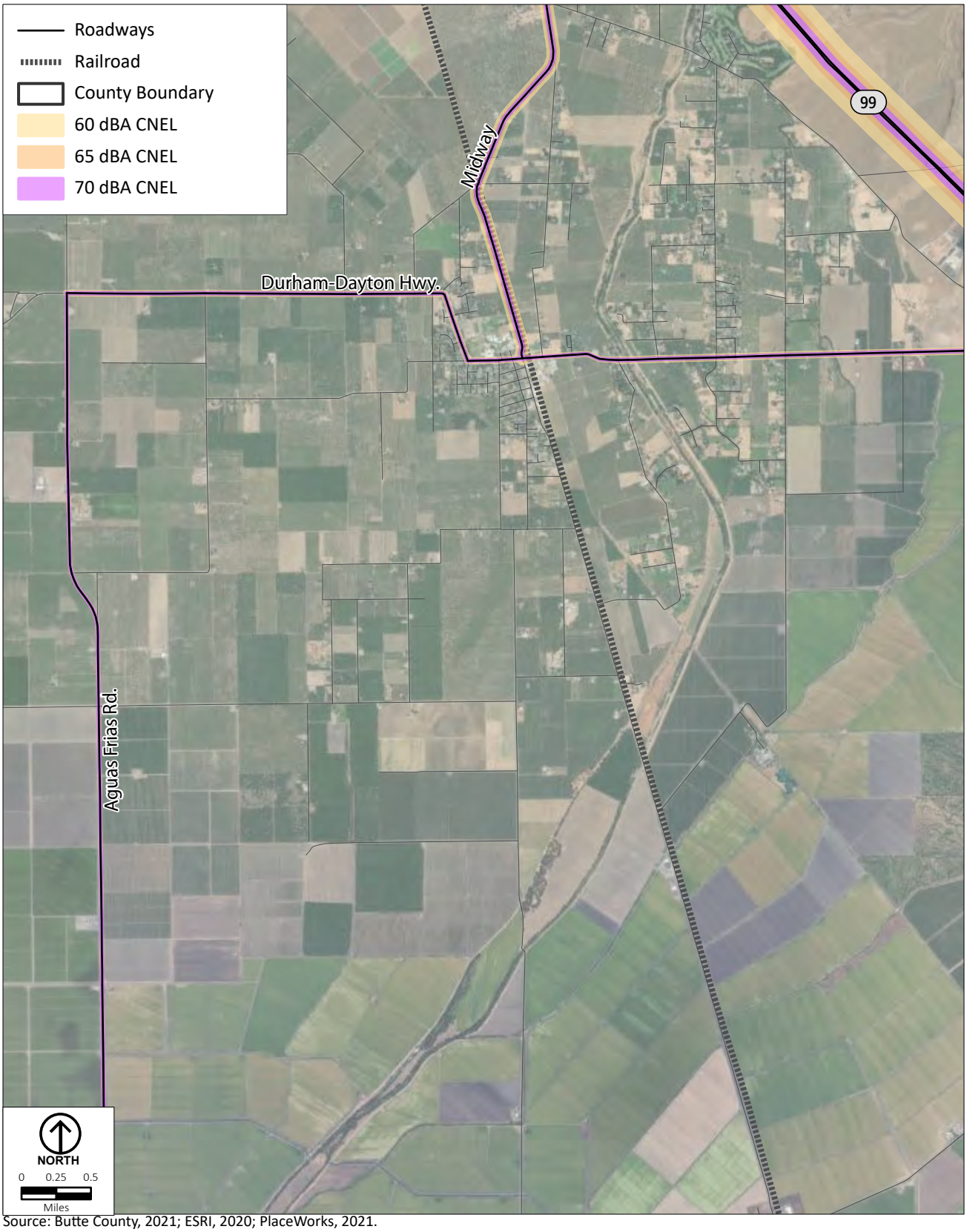
FIGURE 5.13-9

EXISTING TRAFFIC NOISE CONTOURS (MAP 8)



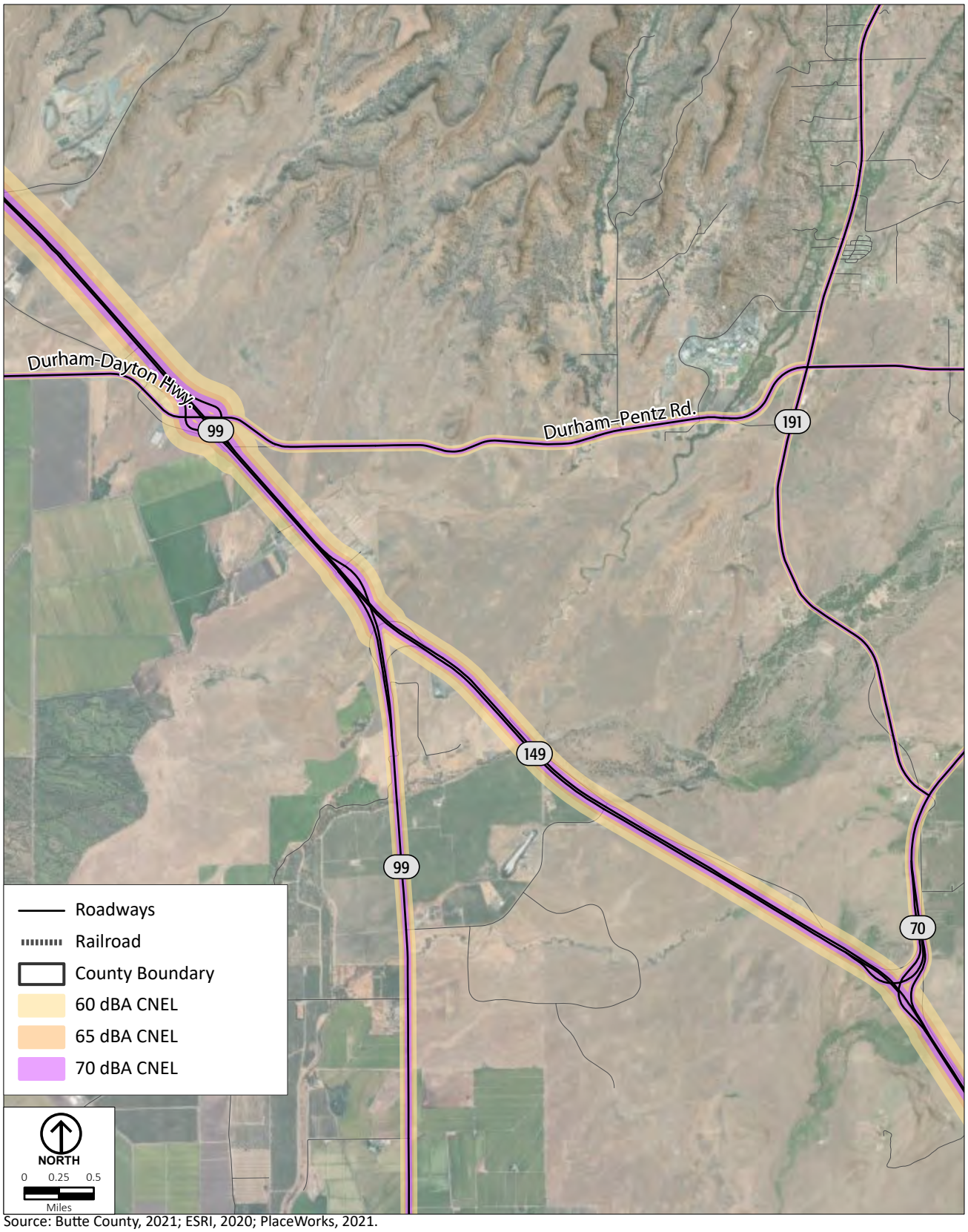
Source: Butte County, 2021; ESRI, 2020; PlaceWorks, 2021.

FIGURE 5.13-10
EXISTING TRAFFIC NOISE CONTOURS (MAP 9)



Source: Butte County, 2021; ESRI, 2020; PlaceWorks, 2021.

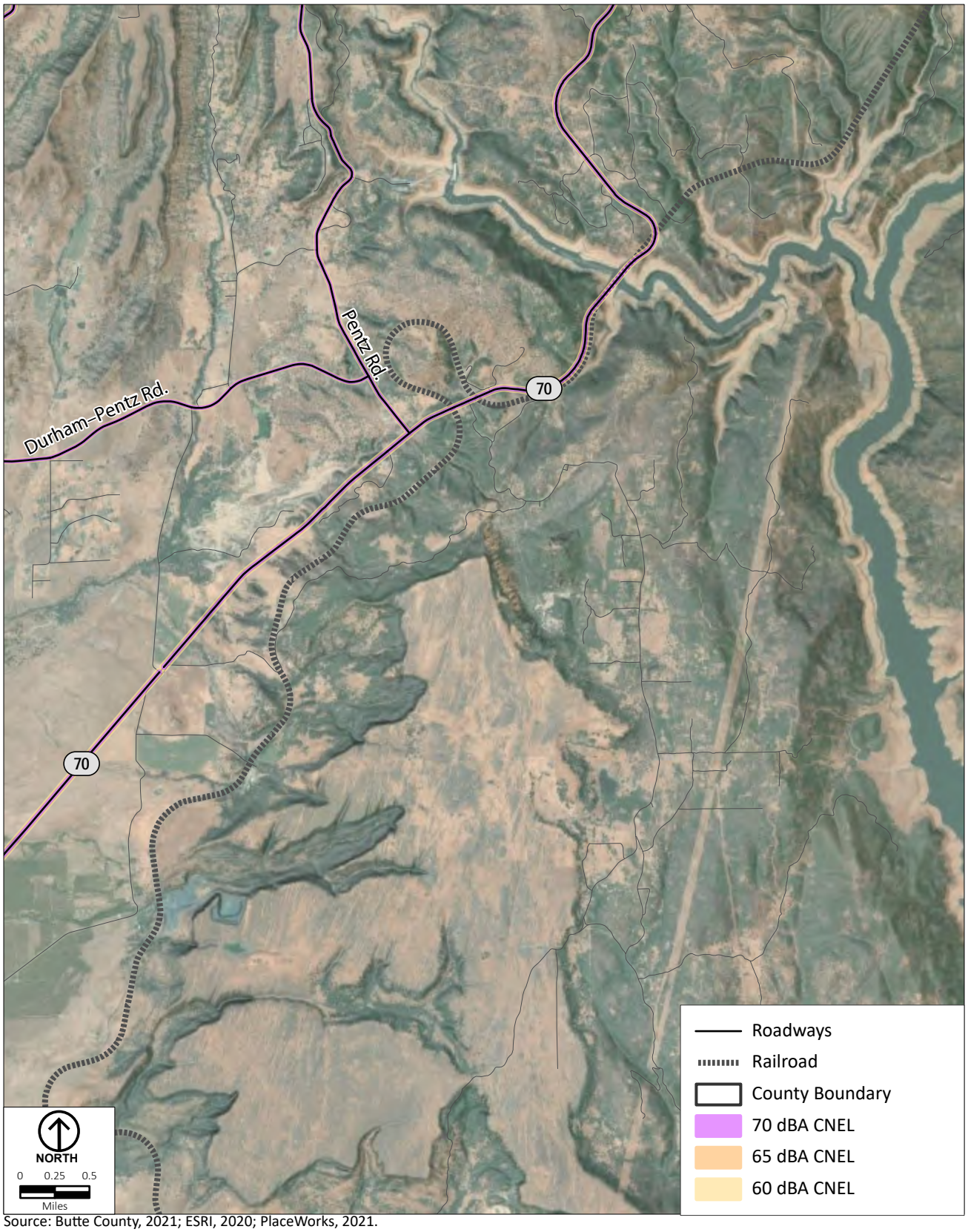
FIGURE 5.13-11
EXISTING TRAFFIC NOISE CONTOURS (MAP 10)



Source: Butte County, 2021; ESRI, 2020; PlaceWorks, 2021.

FIGURE 5.13-12

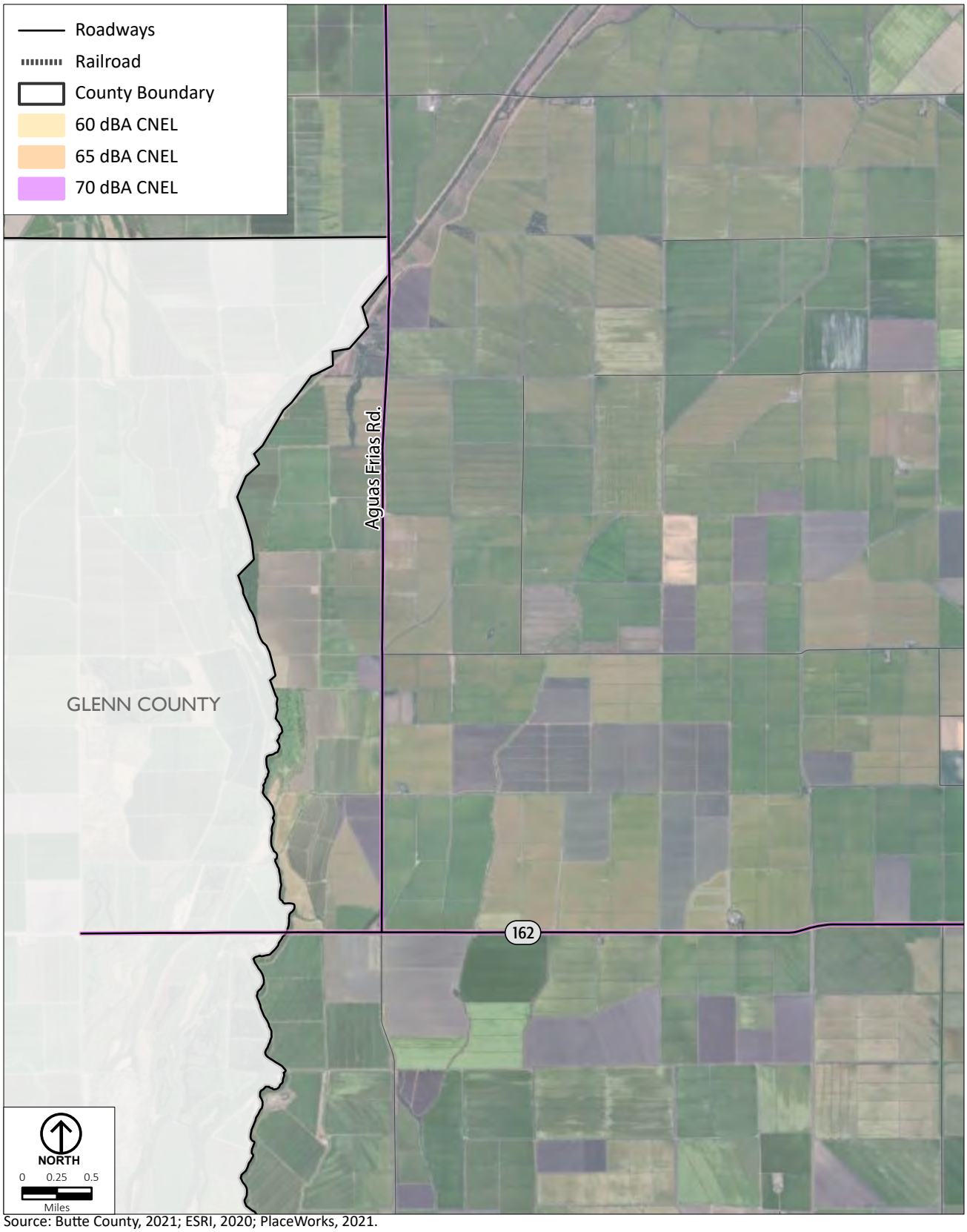
EXISTING TRAFFIC NOISE CONTOURS (MAP 11)



Source: Butte County, 2021; ESRI, 2020; PlaceWorks, 2021.

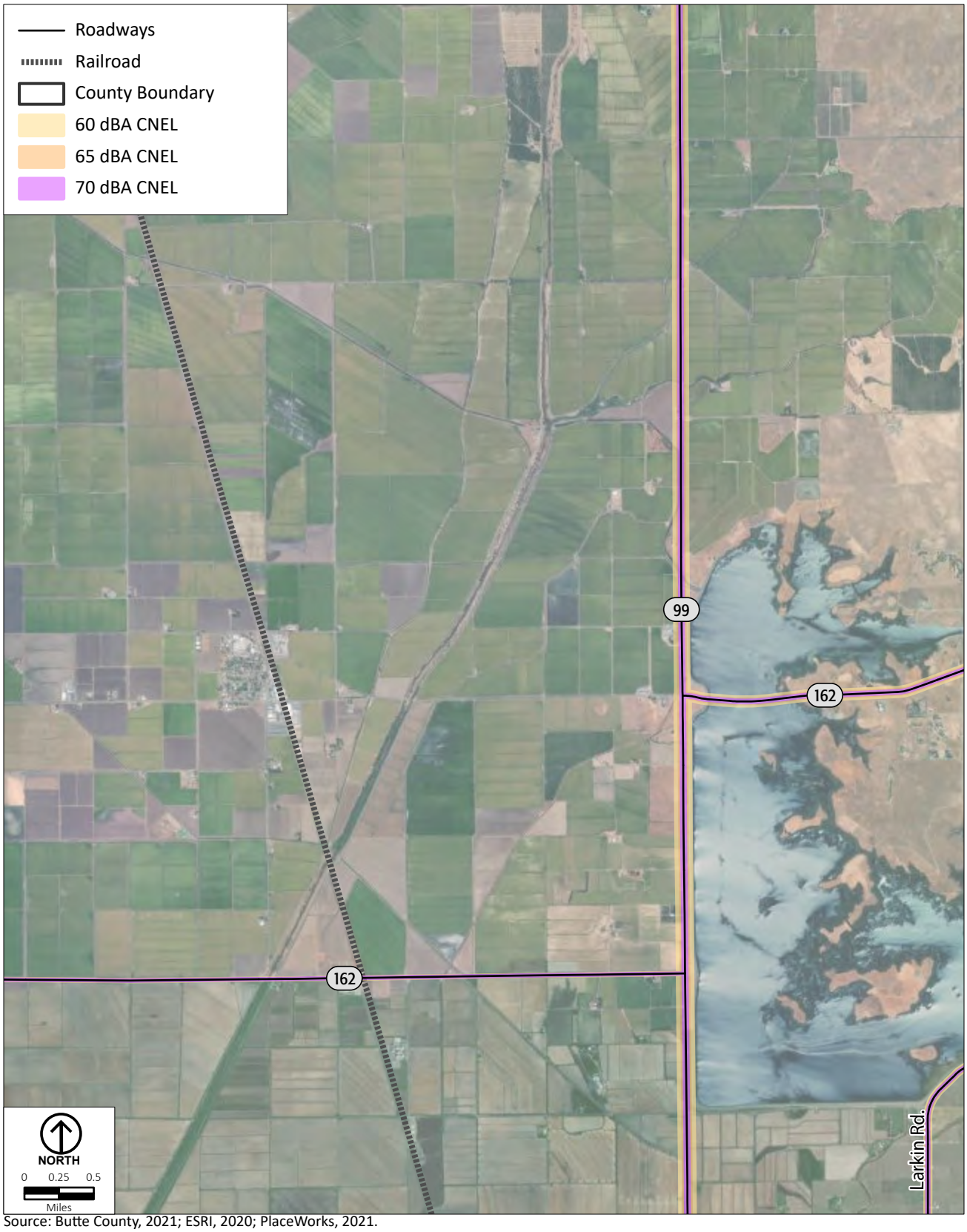
FIGURE 5.13-13

EXISTING TRAFFIC NOISE CONTOURS (MAP 12)



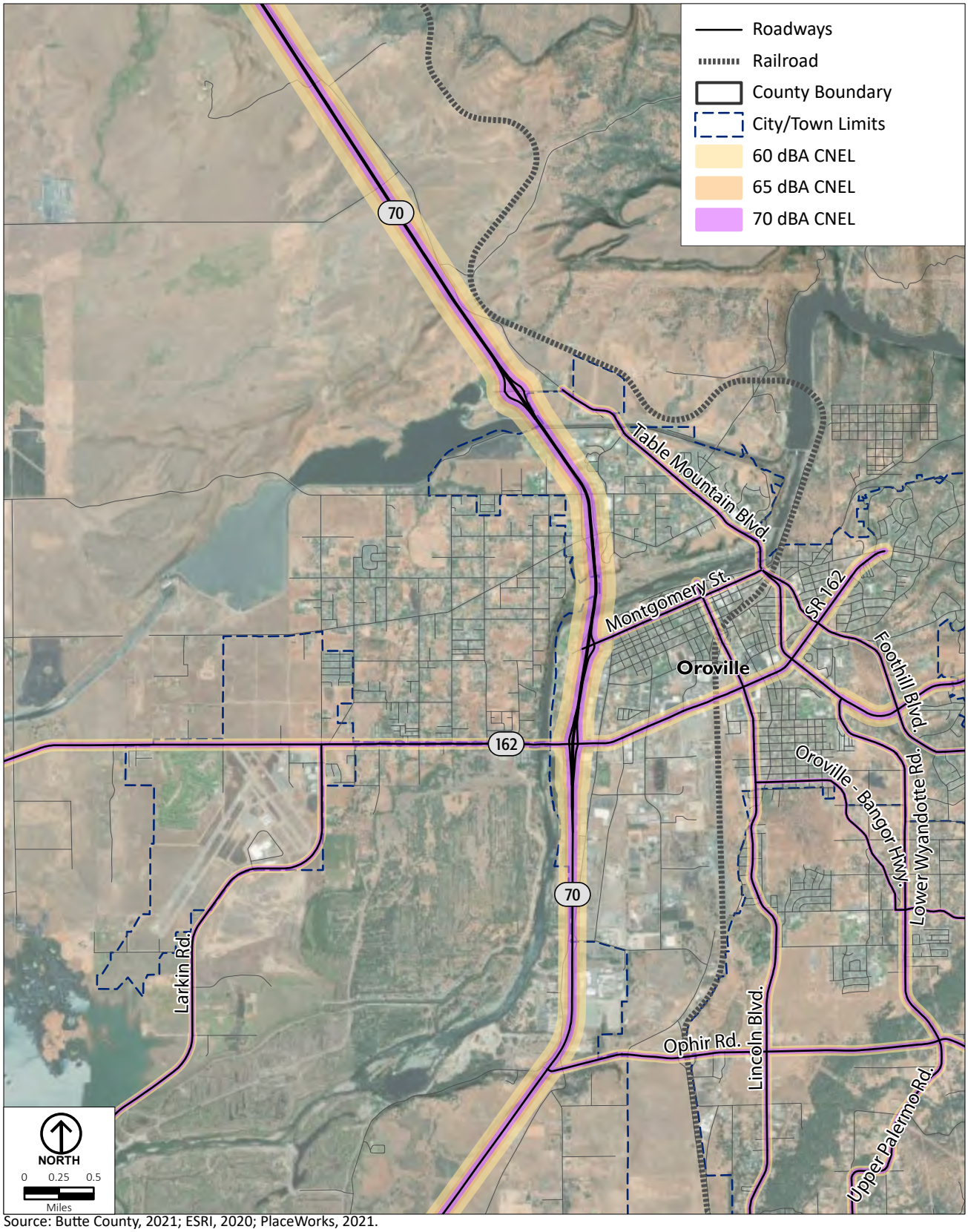
Source: Butte County, 2021; ESRI, 2020; PlaceWorks, 2021.

FIGURE 5.13-14
EXISTING TRAFFIC NOISE CONTOURS (MAP 13)



Source: Butte County, 2021; ESRI, 2020; PlaceWorks, 2021.

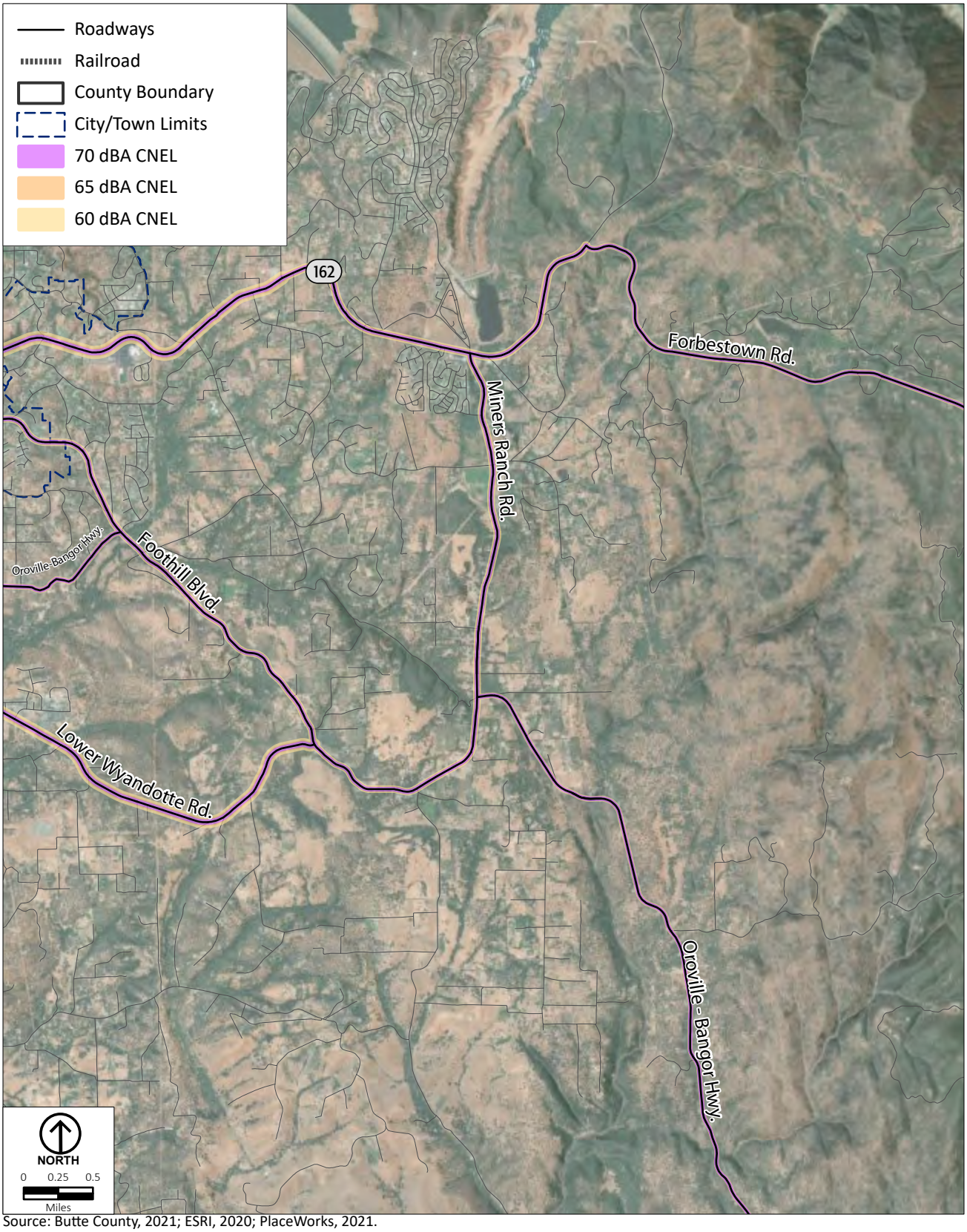
FIGURE 5.13-15
EXISTING TRAFFIC NOISE CONTOURS (MAP 14)



Source: Butte County, 2021; ESRI, 2020; PlaceWorks, 2021.

FIGURE 5.13-16

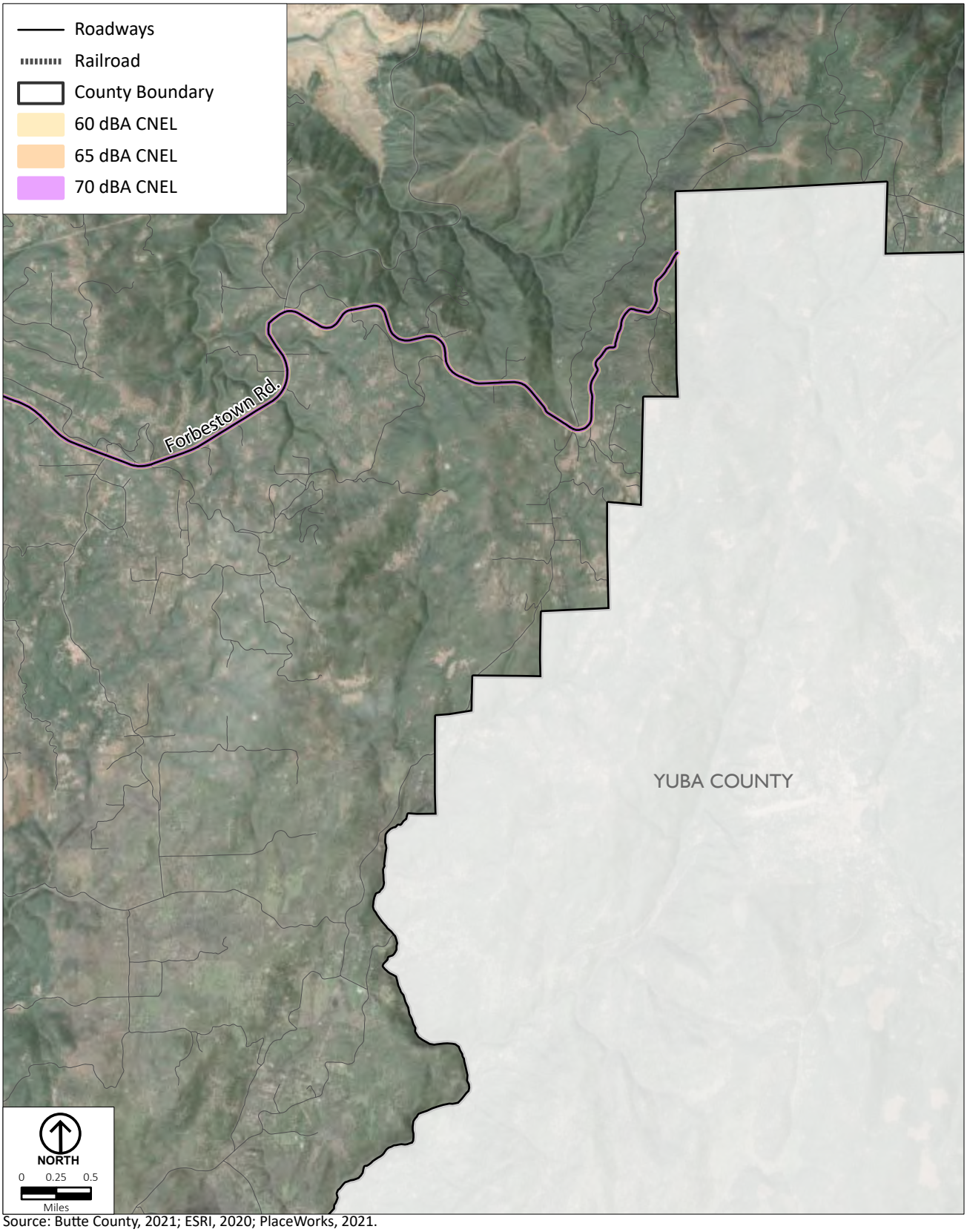
EXISTING TRAFFIC NOISE CONTOURS (MAP 15)



Source: Butte County, 2021; ESRI, 2020; PlaceWorks, 2021.

FIGURE 5.13-17

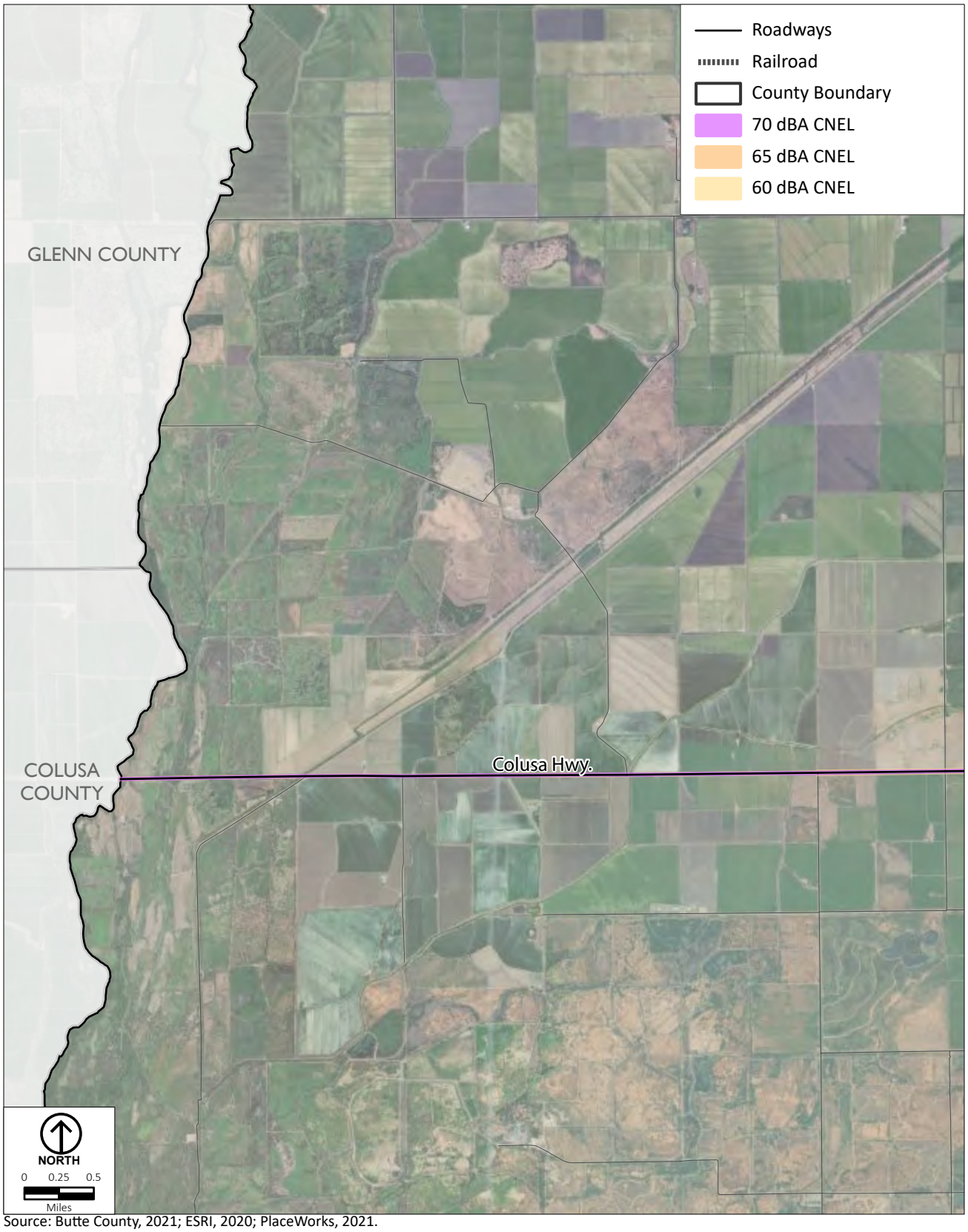
EXISTING TRAFFIC NOISE CONTOURS (MAP 16)



Source: Butte County, 2021; ESRI, 2020; PlaceWorks, 2021.

FIGURE 5.13-18

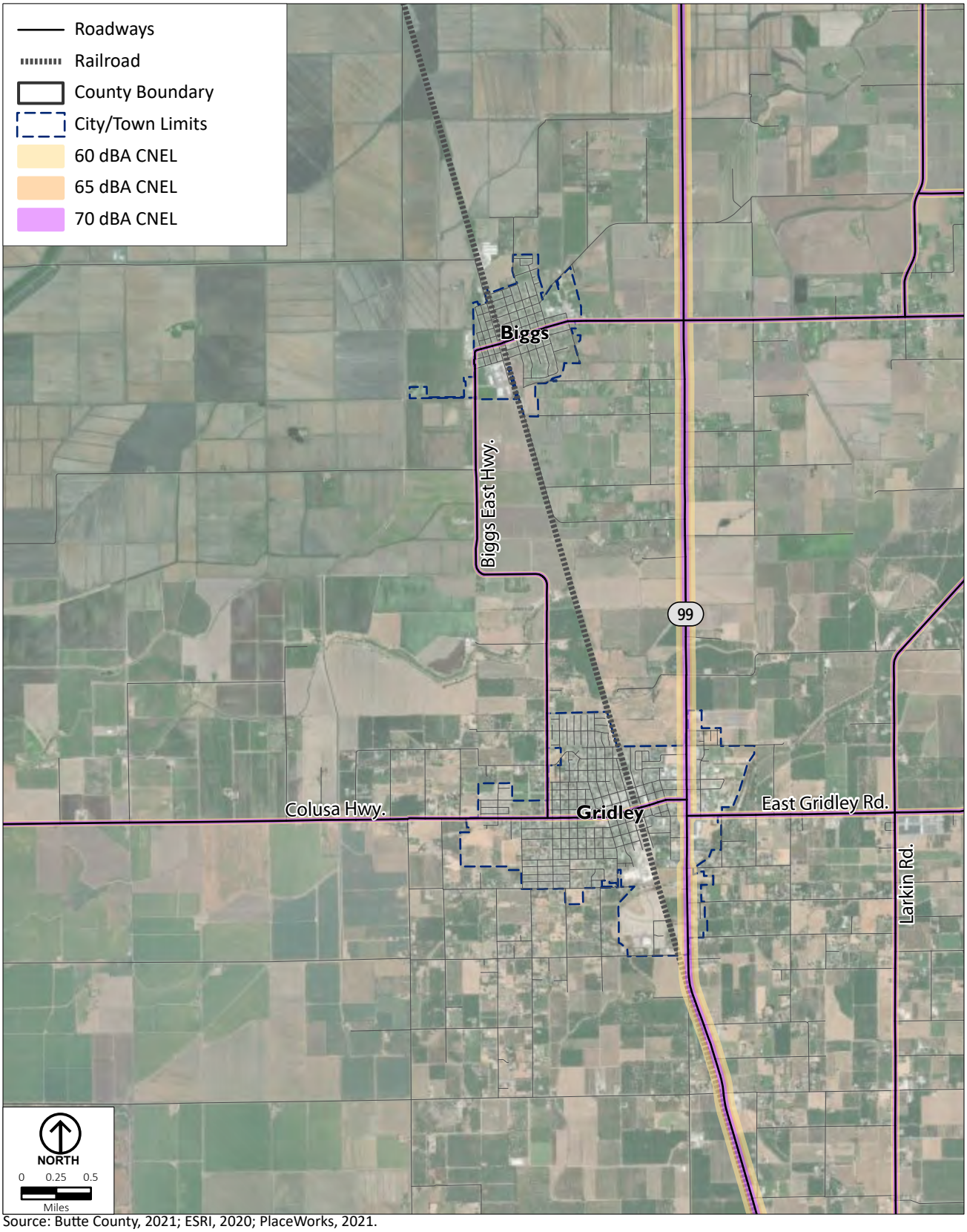
EXISTING TRAFFIC NOISE CONTOURS (MAP 17)



Source: Butte County, 2021; ESRI, 2020; PlaceWorks, 2021.

FIGURE 5.13-19

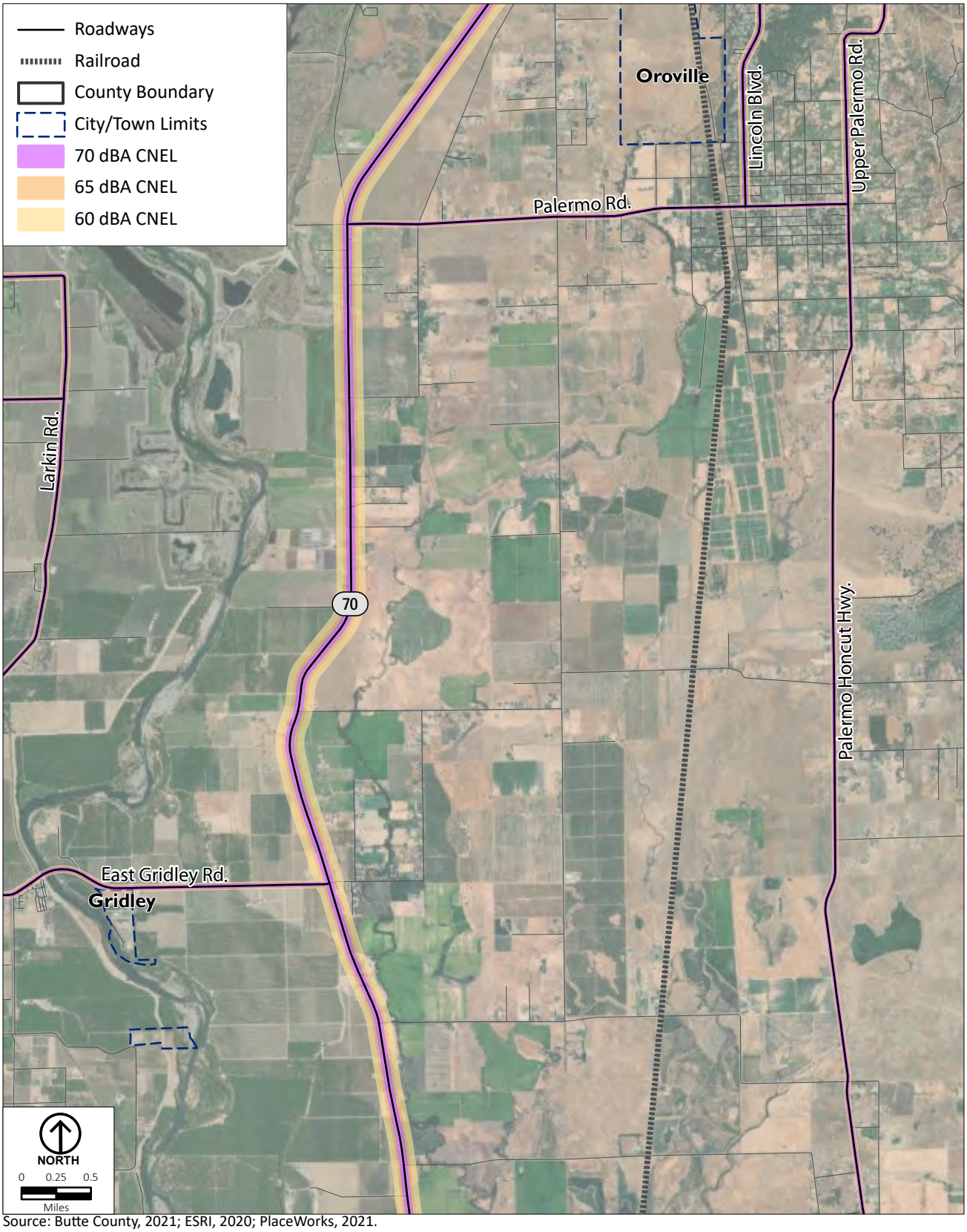
EXISTING TRAFFIC NOISE CONTOURS (MAP 18)



Source: Butte County, 2021; ESRI, 2020; PlaceWorks, 2021.

FIGURE 5.13-20

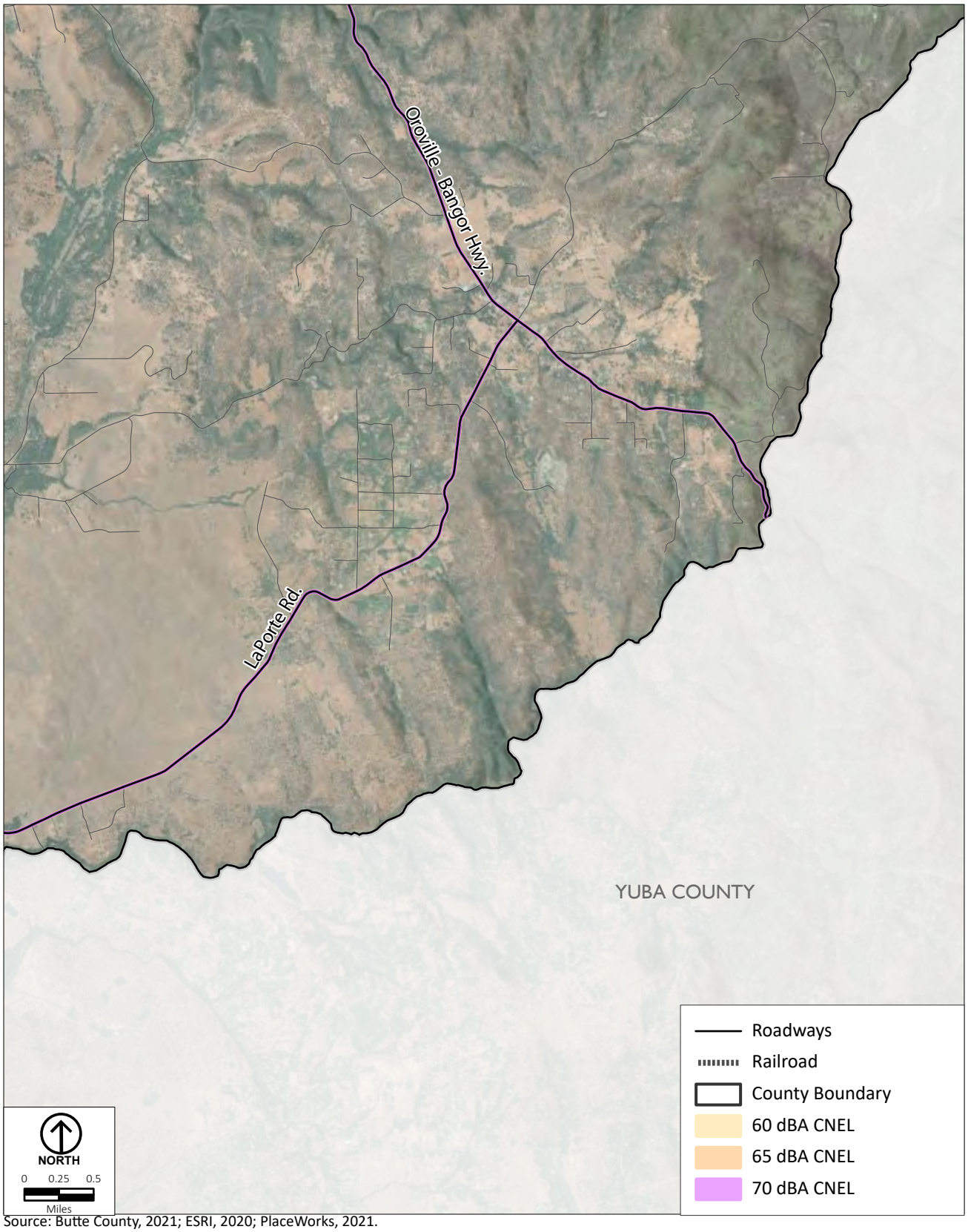
EXISTING TRAFFIC NOISE CONTOURS (MAP 19)



Source: Butte County, 2021; ESRI, 2020; PlaceWorks, 2021.

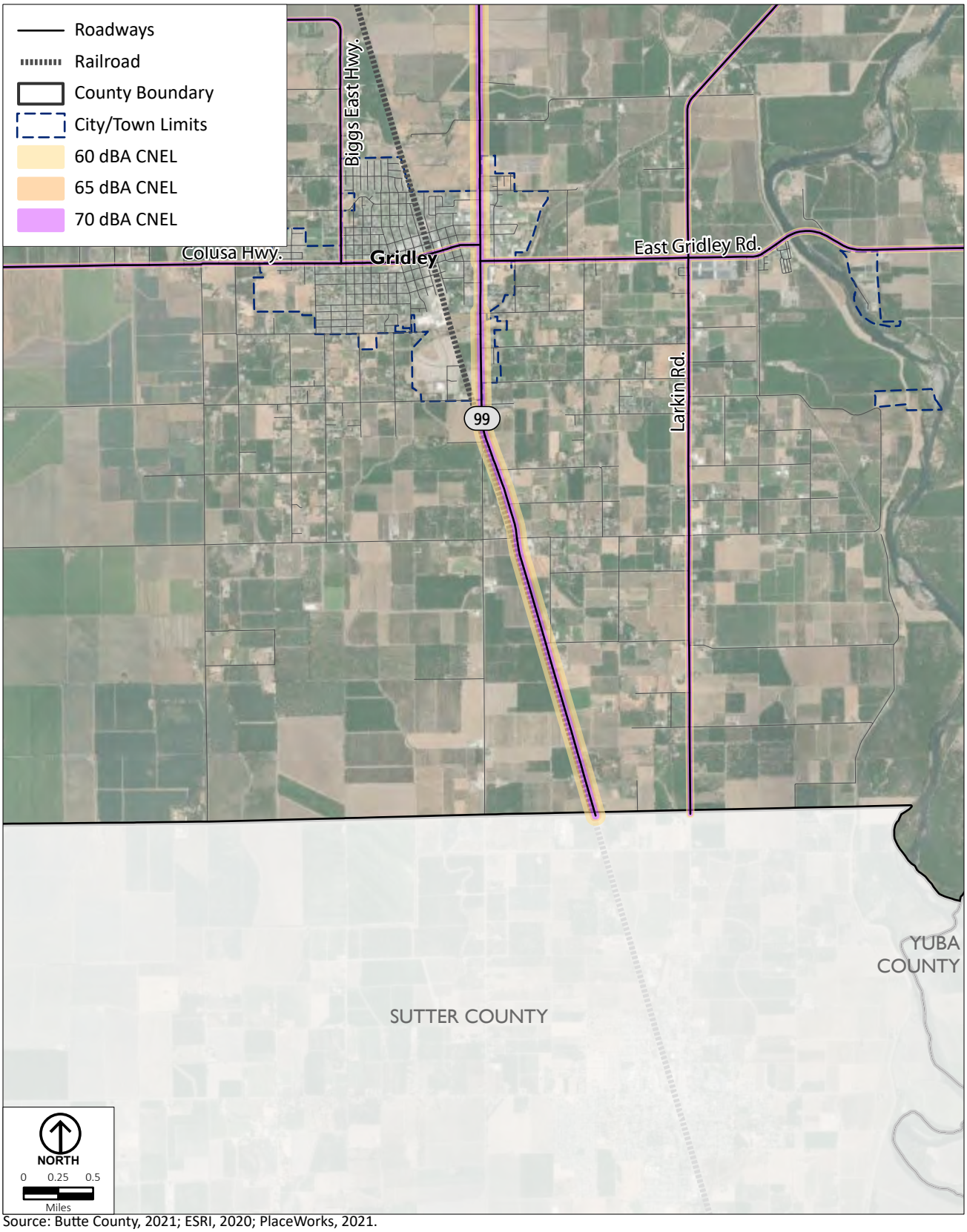
FIGURE 5.13-21

EXISTING TRAFFIC NOISE CONTOURS (MAP 20)



Source: Butte County, 2021; ESRI, 2020; PlaceWorks, 2021.

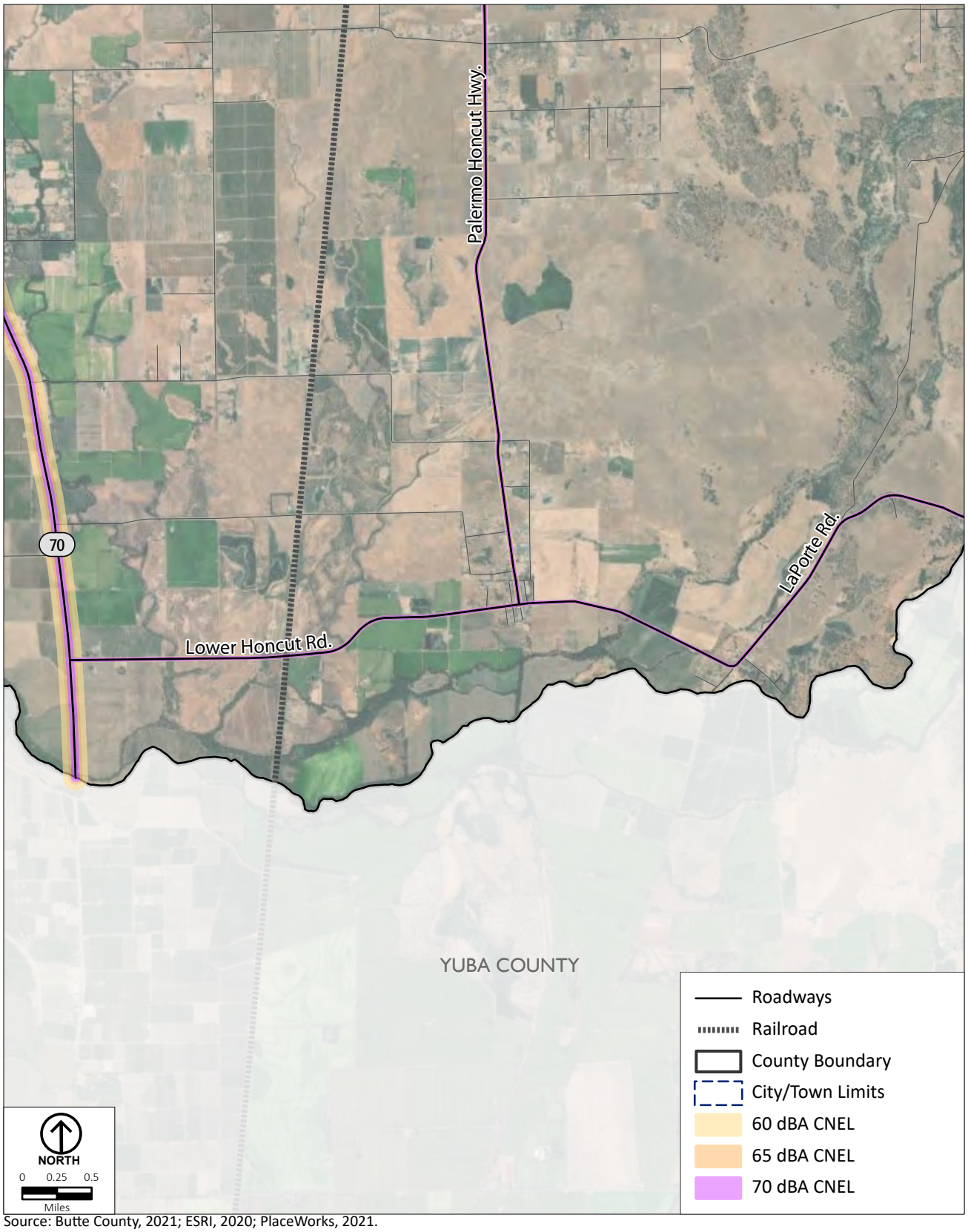
FIGURE 5.13-22
EXISTING TRAFFIC NOISE CONTOURS (MAP 21)



Source: Butte County, 2021; ESRI, 2020; PlaceWorks, 2021.

FIGURE 5.13-23

EXISTING TRAFFIC NOISE CONTOURS (MAP 22)



Source: Butte County, 2021; ESRI, 2020; PlaceWorks, 2021.

FIGURE 5.13-24
EXISTING TRAFFIC NOISE CONTOURS (MAP 23)

The calculated distances to the 65 dBA CNEL contours from existing railroad noise are summarized in Table 5.13-4, Existing Railroad Noise Levels. Since a considerable amount of freight traffic has been diverted onto other lines, there are significantly fewer trains and less rail noise on these lines than reported. There are currently no "quiet zones" in Butte County.1 There are approximately 41 at-grade crossings on the Valley Subdivision and 7 at-grade crossings on the Sacramento-Canyon Subdivision. At each of these crossings, locomotives are required to blow their horns. Most of the at-grade crossings are in rural areas; however, there are several at-grade crossings in the towns and cities of Gridley, Biggs, Richvale, Chico, Palermo, and Oroville. The cities and towns impacted by these at-grade crossings may want to consider implementing quiet zones to reduce existing and future noise impacts from train horn soundings.

TABLE 5.13-4 EXISTING RAILROAD NOISE LEVELS

Train	Subdivision	Distance (feet) to 65 dBA CNEL Contour (main line)	Distance (feet) to 65 dBA CNEL Contour (Within ¼ Mile of Grade Crossing)
UPRR	Sacramento and Canyon Subdivision – Feather River Route	240	407
UPRR	Valley Subdivision	275	473

Airports

There are four existing public airports within Butte County: Chico Municipal Airport, Oroville Municipal Airport, Paradise Skypark Airport, and Ranchaero Airport. The Chico Municipal and Oroville Municipal Airports are owned and operated by the cities of Chico and Oroville, respectively.

Chico Municipal Airport

Chico Municipal Airport is the largest 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. The airport currently handles over 50,000 aircraft take-offs and landings annually and is home to more than 100 aircraft. Chico Municipal Airport includes two parallel runways. The airport runway is equipped with a precision instrument landing system and accommodates a full range of business aircraft. In 2014, commercial service was discontinued, but in 2020 the City of Chico was awarded a Federal Aviation Administration (FAA) grant to assist with restarting commercial service. The airport also receives major use during the fire season because it is a designated "fire attack base."

Land use compatibility issues include urban expansion, which has gradually encroached upon the airport environs. The ALUCP has developed CNEL noise-level contours for the airport, which are shown in Figure 5.13-25.

[1] In a quiet zone, railroads have been directed to cease the routine sounding their horns when approaching public highway-rail grade crossings when certain additional safety measures have been met. Train horns may still be used in emergency situations or to comply with other federal regulations or railroad operating rules.

Oroville Municipal Airport

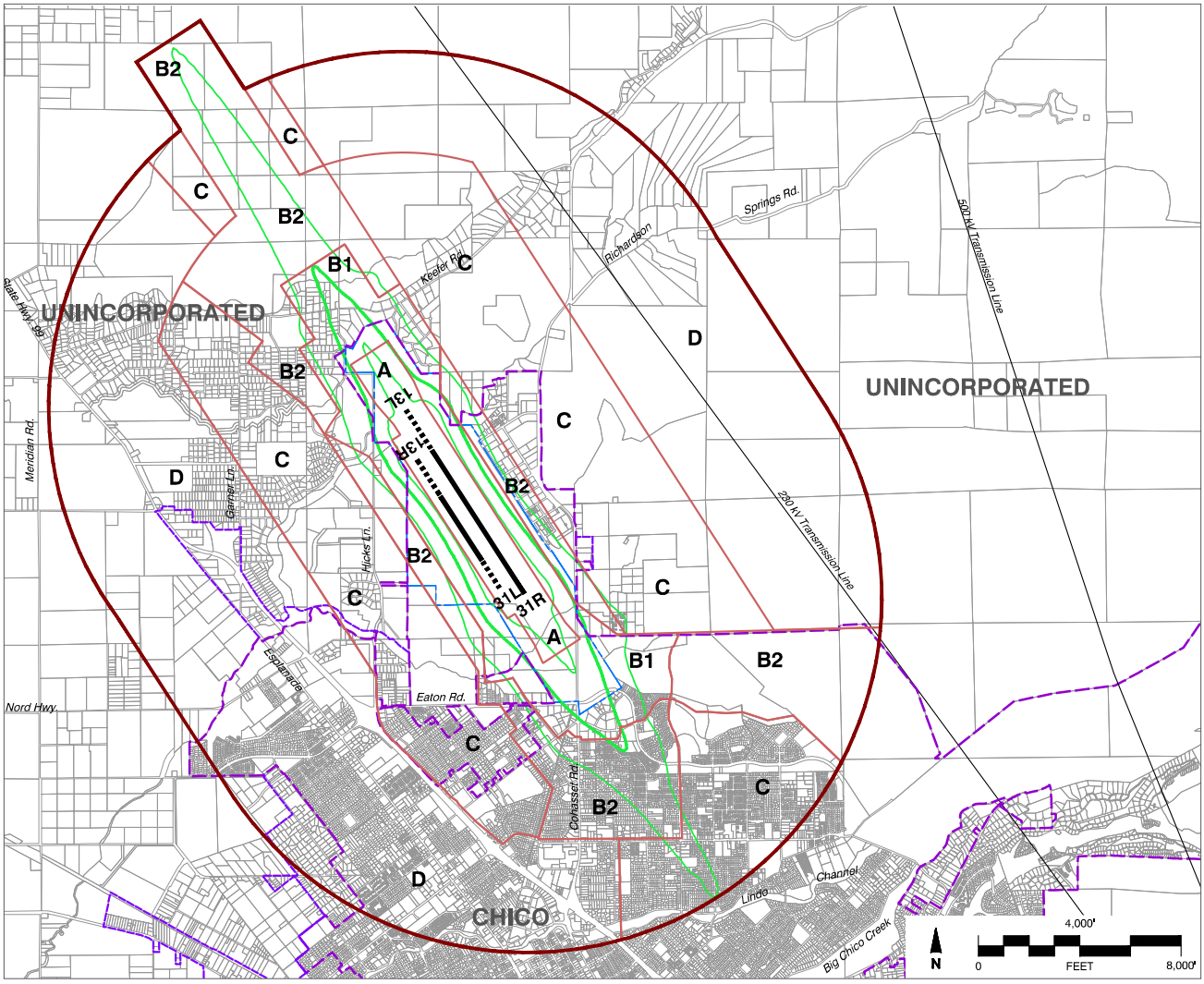
Oroville Municipal Airport is owned and operated by the City of Oroville and is situated within an extension of the Oroville city limits three miles southwest of the downtown. Today, the airport occupies 877 acres and has two runways: Runway 2-20 (6,020 feet long) and Runway 13-31 (3,540 feet long). Runway 2 is served with a straight-in, nonprecision (RNAV/GPS) instrument approach procedure. The airport's historically moderate activity levels, together with the extensive agricultural and open space lands in the surrounding area, have kept compatibility conflicts to a minimum. Airport records indicate some 36,500 annual operations and 80 based aircraft as of January 2016. The ALUCP contains noise-level contours for the airport, which are shown in Figure 5.13-26.

Paradise Skypark Airport

Paradise Skypark Airport is a privately owned and operated general aviation airport. The airport is a quasi-public-use airport requiring prior permission to use the facility. The airport is three miles south of Paradise town center and is 1,300 feet above sea level. The higher elevation allows the airport to serve as a weather alternative when larger airports in the valley experience fog events. The airport also serves as an important regional base for skydiving activities. Positioned along a narrow ridge and occupying only 435 acres of property, Paradise Skypark Airport is both physically and operationally constrained. Current facilities consist of a single 3,017-foot runway (Runway 17-35) and parking space for approximately 50 aircraft. The runway length limits the type of aircraft able to operate in the airport to mostly single engine craft. This also limits the airport's growth operations. As of July 2017, airport records indicate a total of 38 based aircraft and an average of 41 operations a day (approximately 15,000 annual operations). The ALUCP contains noise level contours for the airport, which are shown in Figure 5.13-27.

Ranchaero Airport

Ranchaero Airport is a privately owned and operated 23-acre general aviation facility near the southwestern edge of Chico. The airport is a quasi-public-use facility in that permission is required prior to using the airport. The airport serves a combination of recreational, flight training, agricultural, and limited business functions. The airport's single, 2,156-foot runway (Runway 14-32) currently handles 5,000 aircraft operations per year with 34 based aircraft. The ALUCP contains noise level contours for the airport, which are shown on Figure 5.13-28.



Source: Butte County Airport Land Use Commission, Chico Municipal Airport Land Use Compatibility Plan, 2017.

Legend

Boundary Lines

- Existing Runway
  - Runway 13L-31R (6,724' X 150')
  - Runway 13R-31L (3,000' X 60')
- Future Runway Extension
  - Runway 13L-31R (8,600' Ult. Total Length)
  - Runway 13R-31L (6,000' Ult. Total Length)
- Airport Property Line
- City Limits
- City Sphere of Influence
- Compatibility Zones
- Airport Influence Area

Noise Impacts - Expanded Forecast [1]

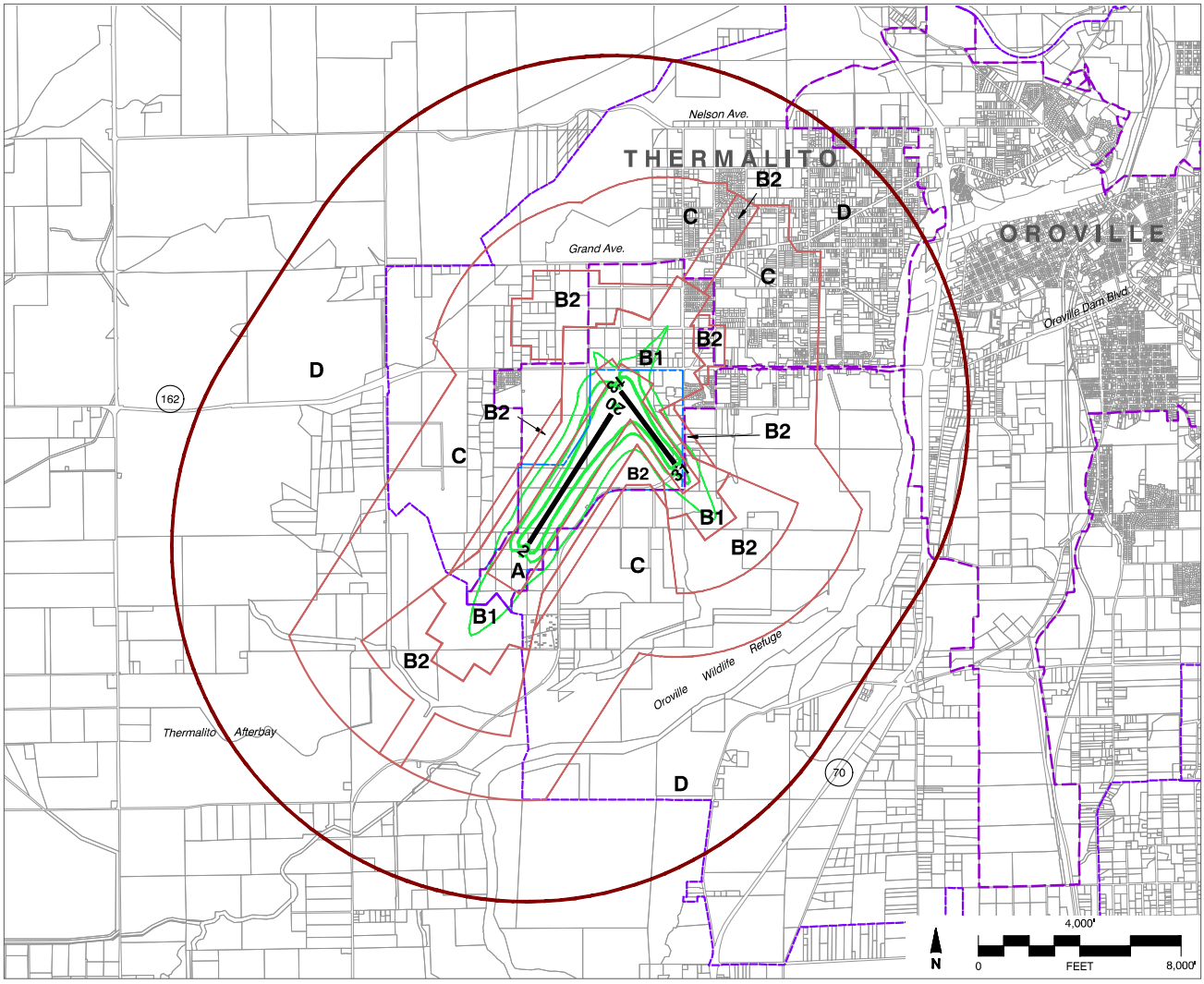
- 55 dB CNEL
- 60 dB CNEL
- 65 dB CNEL

} 141,700 Future Annual Operations

Notes:

1. Noise Contour Source: Butte County Airport Land Use Compatibility Plan (2000); for compatibility planning purposes, forecast assumes 1.5 times the draft Chico Airport Master Plan 2018 forecast of 94,740 annual operations will be reached over a 20-year timeframe.

Figure 5.13-25
Chico Municipal Airport Noise Contours



Source: Butte County Airport Land Use Commission, Oroville Municipal Airport Land Use Compatibility Plan, 2017.

Legend

Boundary Lines

- Existing Runway
  - Runway 02-20 (6,020' X 100')
  - Runway 13-31 (3,540' X 100')
- Airport Property Line
- City Limits
- City Sphere of Influence
- Compatibility Zones
- Airport Influence Area

Noise Impacts[1]

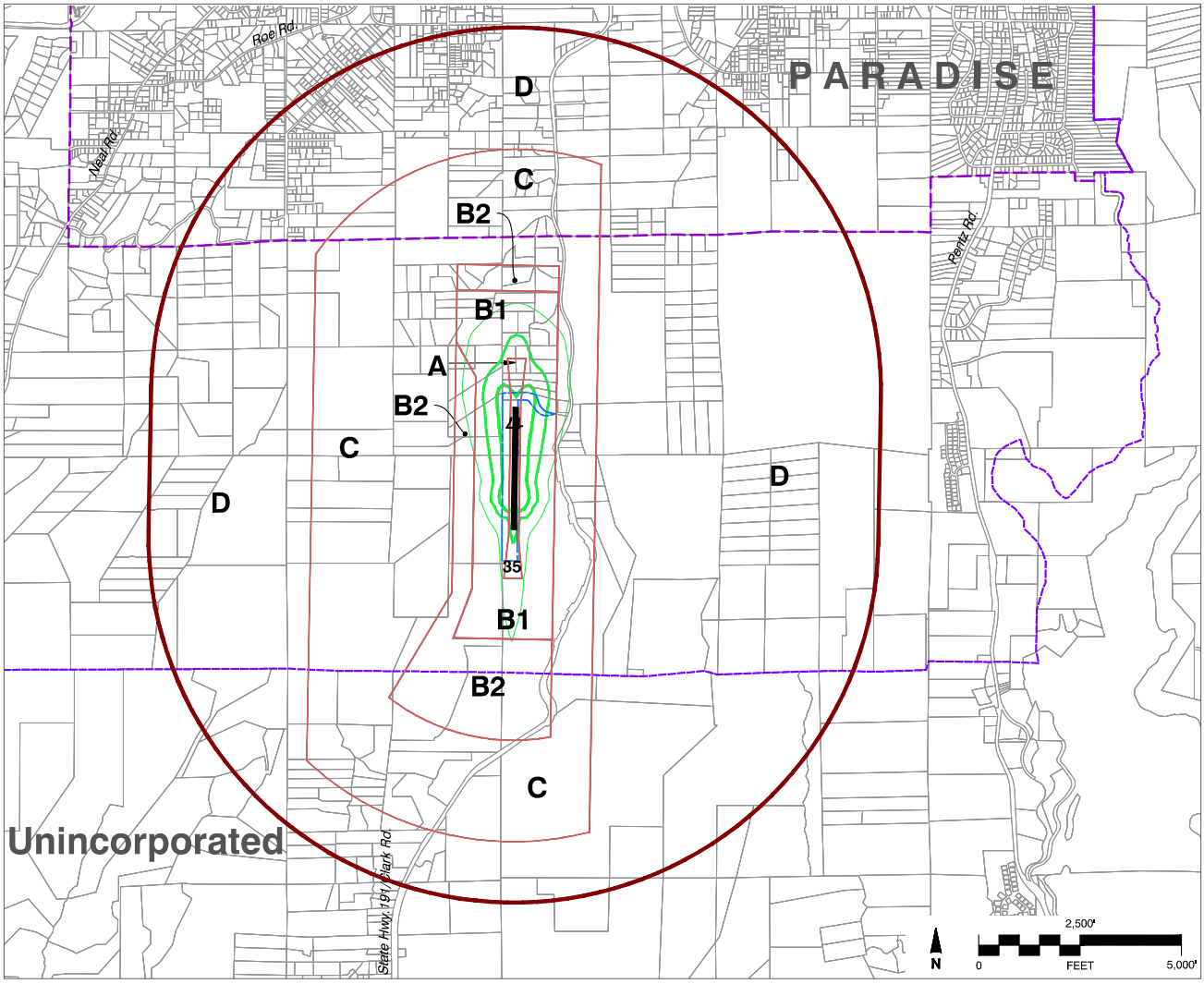
- 55 dB CNEL
- 60 dB CNEL
- 65 dB CNEL

72,000 Future Annual Operations

Notes:

1. Noise Contour Source: Oroville Municipal Airport Master Plan (1990); for compatibility planning purposes, the 2010 Master Plan forecast is brought forward to cover the requisite 20-year timeframe.

Figure 5.13-26
Oroville Municipal Airport Noise Contours



Source: Butte County Airport Land Use Commission, Paradise Skypark Airport Land Use Compatibility Plan, 2017.

Legend

Boundary Lines
- Existing Runway 17-35 (3,017' x 60')
- Airport Property Line
- City Limits
- City Sphere of Influence
- Compatibility Zones
- Airport Influence Area

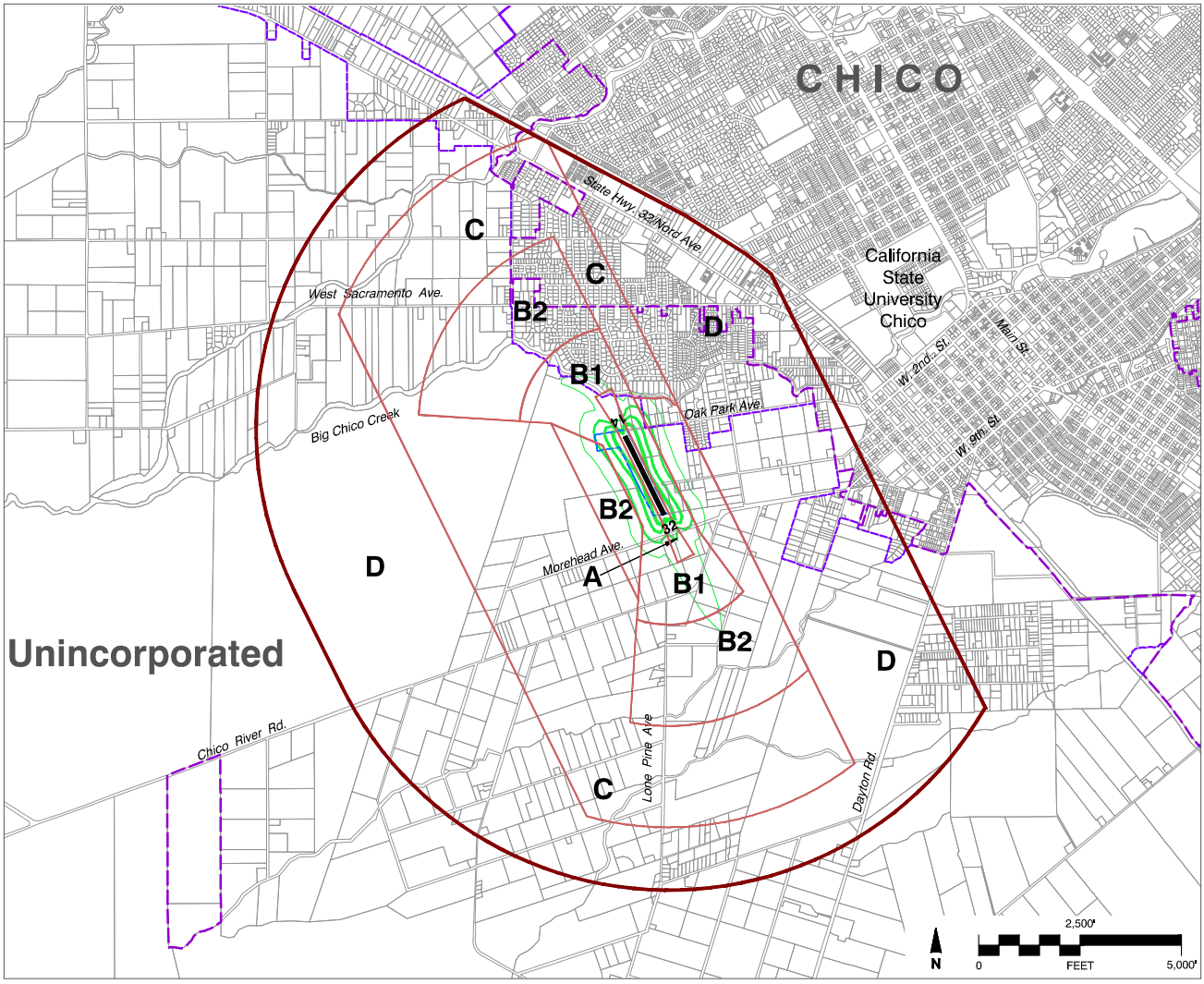
Noise Factors[1]
- 55 dB CNEL
- 60 dB CNEL
- 65 dB CNEL

30,000 Future Annual Operations

Notes:

1. Noise Contour Source: Butte County Airport Land Use Compatibility Plan (2000); for compatibility planning purposes, the ALUCP forecast is brought forward to cover the requisite 20-year timeframe.

Figure 15.13-27
Paradise Skypark Airport Noise Contours



Source: Butte County Airport Land Use Commission, Ranchaero Airport Land Use Compatibility Plan, 2017.

Legend

Boundary Lines

- Existing Runway 14-32 (2,156' X 30')
- Airport Property Line
- City Limits
- City Sphere of Influence
- Compatibility Zones
- Airport Influence Area

Noise Impacts[1]

- 55 dB CNEL
- 60 dB CNEL
- 65 dB CNEL

} 10,000 Future Annual Operations

Notes:

1. Noise Contour Source: Butte County Airport Land Use Compatibility Plan (2000); for compatibility planning purposes, the ALUCP forecast is brought forward to cover the requisite 20-year timeframe.

Figure 5.13-28
Ranchaero Airport Noise Contours

Stationary Noise Sources

Stationary sources of noises may occur on all types of land uses. Residential uses generate noise from landscaping, maintenance activities, and air conditioning systems. Commercial uses generate noise from heating, ventilation, air conditioning (HVAC) systems, loading docks, and other sources. Industrial uses may generate noise from HVAC systems, loading docks, compressors, compactors, and other machinery. Noise generated by residential or commercial uses are generally short and intermittent. Industrial uses may generate noise on a more continual basis due to the nature of the activities. Nightclubs, outdoor dining areas, gas stations, car washes, fire stations, drive-throughs, swimming pool and hot tub pumps, school playgrounds, athletic and music events, and public parks are other common noise sources. Major stationary noise sources in unincorporated Butte County are described below.

Landfills

The Neal Road Landfill is at 1023 Neal Road, south of the City of Chico and east of State Route 99. The primary on-site noise sources associated with the Neal Road Landfill are the powered equipment and haul trucks. Powered equipment for landfills typically includes a scraper used for excavating dirt and spreading it over the refuse; a bulldozer for ripping dirt for the scraper and moving refuse at the dump site; and a compactor for moving refuse and compacting the garbage and dirt. Based on aerial views of the landfill, there are no nearby noise-sensitive uses.

Mining Operations

Existing and proposed aggregate mining operations in Butte County have been identified as potential stationary noise sources. Mining activities are discussed in Chapter 5.12, *Mineral Resources*, and Figure 5.12-1, *Mining Activities,* maps the sites. The major noise sources associated with aggregate mining operations include crushing and screening activities, operation of the generator, and off-site hauling of materials. Such equipment for mining activities can generate average levels over 85 dBA L_{eq} and maximum noise levels of 100 dBA L_{max} at a distance of 50 feet. In addition, it may sometimes be necessary to conduct blasting to free the aggregate resources for excavation.

Recreational Sources

Major recreational noise sources in the county include the Cycleland Speedway and the Paradise Rod & Gun Club. The Cycleland Speedway is in the central portion of Butte County on the southwest corner of Nelson Road and Highway 99, south of Chico and north of Gridley, adjacent to Highway 99. The Cycleland Speedway has both a 1/6-mile clay oval track and a 20-acre outdoor motocross track. The Paradise Rod & Gun Club is located along the Skyway about six miles east of Highway 99. The facility provides recreational rifle and pistol shooting for the general public and club members, training for local law enforcement, and youth firearms safety.

Vibration

Commercial and industrial operations (such as mining operations discussed above) in the plan area can generate varying degrees of ground vibration, depending on the operational procedures and equipment. Such equipment-generated vibrations spread through the ground and diminish with distance from the source. The effect on buildings in the vicinity of the vibration source varies depending on soil type, ground strata, and receptor-building construction. The results from vibration can range from no perceptible effects at the lowest vibration levels, to low rumbling sounds and perceptible vibrations at moderate levels, to slight structural damage at the highest levels.

Other existing sources of vibration include vehicle traffic on roadways. Caltrans has studied the effects of propagation of vehicle vibration on sensitive land uses and notes that "heavy trucks, and quite frequently buses, generate the highest earthborn vibrations of normal traffic." Caltrans further notes that the highest traffic-generated vibrations are along freeways and state routes. Their study finds that "vibrations measured on freeway shoulders (five meters from the centerline of the nearest lane) have never exceeded 0.08 in/sec with the worst combinations of heavy trucks and poor roadway conditions (while such trucks were moving at freeway speeds). This level coincides with the maximum recommended safe level for ruins and ancient monuments (and historic buildings)" (Caltrans 2013b).

5.13.2 STANDARDS OF SIGNIFICANCE

The proposed project would result in a significant noise impact if it would:

1. Result in generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or in other applicable local, state, or federal standards.
2. Result in generation of excessive groundborne vibration or groundborne noise levels.
3. 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 2 miles of a public airport or public use airport, expose people residing or working in the project area to excessive noise levels.
4. In combination with past, present, and reasonably foreseeable projects, result in cumulative impacts with respect to noise.

Construction Noise Thresholds

As stated above, the County's Noise Control Ordinance has restricted hours for construction activities. However, it does not have a specific limits or thresholds for construction noise during the allowable hours. Therefore, the FTA construction noise criterion of 80 dBA L_{eq} is used in this analysis to assess construction noise impacts at sensitive receptors (FTA 2018).

Stationary Noise Thresholds

The County's Noise Control Ordinance provides noise standards for stationary sources that would be analyzed at the project level and are summarized in Table 5.13-3, *Maximum Allowable Noise Exposure, dBA*.

Transportation Noise Thresholds

A project will normally have a significant effect on the environment related to noise if it will substantially increase the ambient noise levels for adjoining areas. Most people can detect changes in sound levels of approximately 3 dBA under normal, quiet conditions, and changes of 1 to 3 dBA are detectable under quiet, controlled conditions. Changes of less than 1 dBA are usually indiscernible. A change of 5 dBA is readily discernible to most people in an exterior environment. Based on this, the following thresholds of significance similar to those recommended by the FAA, are used to assess traffic noise impacts at sensitive receptor locations. A significant impact would occur if traffic noise increase would exceed:

- 1.5 dBA in ambient noise environments of 65 dBA CNEL and higher
- 3 dBA in ambient noise environments of 60 to 64 dBA CNEL
- 5 dBA in ambient noise environments of less than 60 dBA CNEL

Vibration Thresholds

The County does not have specific limits or thresholds for vibration.

Vibration Damage from Construction

The FTA provides criteria for acceptable levels of groundborne vibration for various types of buildings identified as Category I, II, and III buildings based on the type of materials they are constructed from. These criteria are used for this analysis and shown in Table 5.13-5. A Category III threshold of 0.20 in/sec PPV for non-engineered timber and masonry buildings would apply to typical residential structures.

TABLE 5.13-5 GROUNDBORNE VIBRATION CRITERIA: ARCHITECTURAL DAMAGE

Building Category	PPV (in/sec)
I. Reinforced concrete, steel, or timber (no plaster)	0.50
II. Engineered concrete and masonry (no plaster)	0.30
III. Nonengineered timber and masonry buildings	0.20
IV. Buildings extremely susceptible to vibration damage	0.12

Source: FTA 2018.
Note: PPV = peak particle velocity

5.13.3 PROPOSED GENERAL PLAN POLICIES

The following are relevant policies of the Butte County General Plan Update, which may contribute to the reduction of noise levels as a result of implementation of the proposed project.

Health and Safety Element

- HS-P1.1: New development projects proposed in areas that exceed the land use compatibility standards in Tables HS-2 and HS-3 shall require mitigation of noise impacts.
- HS-P1.2: Noise from transportation sources shall not exceed land use compatibility standards in Table HS-2
- HS-P1.3: New noise-sensitive land uses shall not be within the 55 L_{dn} contour of airports, roadways, and other noise-generating uses, with the exception of the Chico Municipal Airport
- HS-P1.4: New noise-sensitive land uses shall not be within the 60 L_{dn} contour of the Chico Municipal Airport
- HS-P1.5: Noise from new recreational activities and events shall not exceed 60 dB at the nearest noise-sensitive land use.
- HS-P1.6: Applicants proposing a new noise-producing development project near existing or planned noise-sensitive uses shall provide a noise analysis prepared by an acoustical specialist with recommendations for design mitigation.
- HS-P1.7: Applicants for discretionary permits shall be required to limit noise-generating construction activities within 1,000 feet of residential uses to daytime hours between 7:00 a.m. and 6:00 p.m. on weekdays and non-holidays.
- HS-P1.8: Noise from generators shall be regulated near existing and future residential uses.
- HS-P1.9: The following standard construction noise control measures shall be required at construction sites to minimize construction noise impacts
    - Equip all internal combustion engine-driven equipment with intake and exhaust mufflers that are in good condition and appropriate for the equipment.
    - Locate stationary noise-generating equipment as far as possible from sensitive receptors when sensitive receptors adjoin or are near a construction project area.
    - Use quiet air compressors and other stationary noise-generating equipment where appropriate technology exists and is feasible
- HS-P1.10: To reduce impacts from groundborne vibration associated with rail operations, residences, or other vibration-sensitive buildings shall be sited at least 100 feet from the centerline of the nearest railroad track whenever feasible. Development of vibration-sensitive buildings, such as those containing precision medical and industrial equipment or television, radio, and recording studios, within 100 feet from the centerline of the nearest railroad track shall require a study demonstrating that groundborne vibration issues associated with rail operations have been adequately addressed through building siting or construction techniques.

Land Use Element

- LU-P5.3: New industrial uses shall be designed to avoid adverse impacts to adjacent uses, particularly residential neighborhoods, with respect to, but not limited to, noise, dust and vibration, water quality, air quality, agricultural resources, and biological resources.

Environmental Justice Element

- EJ-P4.2: The County shall support efforts to retrofit existing housing units in Communities of Opportunity with improvements that reduce indoor air and noise pollution and improve energy efficiency.

Area Plans Element

- D2N-P1.5: Restrict residential development from locating adjacent to streets carrying or expected to carry 10,000 vehicles per day because of adverse noise levels.
- D2N-P1.19: Locate noise-sensitive uses a sufficient distance from railroads or provide appropriate mitigation measures to avoid adverse effects from trains passing through the Planning Area.

4.13.1 IMPACT DISCUSSION

5.13.3.1 METHODOLOGY

Methodology for estimating future traffic noise levels was the same used for existing conditions. Future conditions for all highway and major roadways in the plan area were estimated using the FHWA traffic noise prediction model methodology based on traffic data provided by Fehr and Peers Transportation Consultant. The FHWA model predicts noise levels through a series of adjustments to a reference sound level. These adjustments account for distances from the roadway; average daily traffic volumes; vehicle speeds; car/truck mix; number of lanes; road widths; and day, evening, and night traffic percentage distribution. The complete distances to the 70, 65, and 60 dBA CNEL noise contours for roadway segments in the county are in Appendix 5.13-1.

As a result of the California Supreme Court decision regarding the assessment of the environment's impacts on projects (C*alifornia Building Industry Association v. Bay Area Air Quality Management District*, 62 Cal. 4th 369 (No. S 213478) issued December 17, 2015), it is generally no longer the purview of the CEQA process to evaluate the impact of existing environmental conditions on any given project. As a result, while the noise from existing sources is taken into account as part of the baseline, the direct effects of exterior noise from nearby noise sources in terms of land use compatibility with a future project as a result of implementation of the project is typically no longer a required topic for impact evaluation under CEQA. Generally, no determination of significance is required except for certain school projects, projects affected by airport noise, and projects that would exacerbate existing conditions (i.e., projects that would have a significant operational impact). Applicable General Plan noise policies, along with the future noise levels shown in the General Plan noise contour maps, should be used by the County as a guide for evaluating the compatibility of noise sensitive projects in potentially noisy areas.

5.13.3.2 IMPACT ANALYSIS

NOI-1	Implementation of the General Plan 2040 would result in the generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or in other applicable local, state, or federal standards.

General Plan 2040: Construction Noise

Potential future development could result in two types of temporary noise impacts during construction.

- The transport of workers and movement of materials to and from the site could incrementally increase noise levels along local access roads.
- Noise would be generated from activities related to demolition, site preparation, grading, and/or physical construction.

Construction is performed in phases, each of which has its own mix of equipment, and, consequently, its own noise characteristics. Table 5.13-6 lists typical construction equipment noise levels recommended for noise-impact assessments, based on a distance of 50 feet between the equipment and noise receptor.

TABLE 5.13-6 CONSTRUCTION EQUIPMENT NOISE EMISSION LEVELS

Construction Equipment	Typical Max Noise Level (dBA Lmax)[1]	Construction Equipment	Typical Max Noise Level (dBA Lmax)[1]
Air Compressor	81	Pile-Driver (Impact)	101
Backhoe	80	Pile-Driver (Sonic)	96
Ballast Equalizer	82	Pneumatic Tool	85
Ballast Tamper	83	Pump	76
Compactor	82	Rail Saw	90
Concrete Mixer	85	Rock Drill	98
Concrete Pump	71	Roller	74
Concrete Vibrator	76	Saw	76
Crane, Derrick	88	Scarifier	83
Crane, Mobile	83	Scraper	89
Dozer	85	Shovel	82
Generator	81	Spike Driver	77
Grader	85	Tie Cutter	84
Impact Wrench	85	Tie Handler	80
Jack Hammer	88	Tie Inserter	85
Loader	85	Truck	88
Paver	89		

Source: FTA 2018.
[1] Measured 50 feet from the source.

As shown, construction equipment generates high levels of noise, with maximums ranging from 71 dBA to 101 dBA. Construction of individual developments associated would temporarily increase the ambient noise environment and would have the potential to affect noise-sensitive land uses in the vicinity of an individual project. According to the County's Noise Control Ordinance, construction activities are exempt from the noise standards during the time periods:

- Sunset to sunrise on weekdays and nonholidays
- Friday 6:00 p.m. through 8:00 a.m. Saturday
- Before 8:00 a.m. on holidays
- Saturday 6:00 p.m. through 10:00 a.m. Sunday
- Sunday after 6:00 p.m.

Implementation of the proposed General Plan 2040 anticipates an increase in development intensity to accommodate new population and employment growth. Construction noise levels are highly variable and dependent on the specific locations, site plans, and construction details of individual projects. Significant noise impacts may occur from operation of heavy earth-moving equipment and truck haul operations associated with construction of individual development projects, particularly if construction techniques such as impact or vibratory pile driving are proposed. The time of day that construction activity is conducted would also determine the significance of each project, particularly during the more sensitive nighttime hours. However, construction would be localized and would occur intermittently for varying periods of time.

Because specific project-level information is inherently unavailable at this time, it is not possible nor appropriate to quantify the construction noise impacts at specific sensitive receptors. In most cases, construction of individual developments associated with implementation of the project would temporarily increase the ambient noise environment in the vicinity of each individual project, potentially affecting existing and future nearby sensitive uses. The following proposed Health and Safety Element policies would help minimize the effects of intermittent and short-term construction noise. However, because construction activities associated with any individual development may occur near noise-sensitive receptors and because, depending on the project type, equipment list, time of day, phasing, and overall construction durations, noise disturbances may occur for prolonged periods of time or during the more sensitive nighttime hours, construction noise impacts associated with implementation of the project are considered potentially significant.

- Policy HS-P1.7: Applicants for discretionary permits shall be required to limit noise-generating construction activities within 1,000 feet of residential uses to daytime hours between 7:00 a.m. and 6:00 p.m. on weekdays and non-holidays.
- Policy HS-P1.9.: The following standard construction noise control measures shall be required at construction sites to minimize construction noise impacts:
    - Equip all internal combustion engine-driven equipment with intake and exhaust mufflers that are in good condition and appropriate for the equipment.
    - Locate stationary noise-generating equipment as far as possible from sensitive receptors when sensitive receptors adjoin or are near a construction project area.

- Use quiet air compressors and other stationary noise-generating equipment where appropriate technology exists and is feasible.

Level of Significance Before Mitigation: NOI-1 would be potentially significant.

Impact NOI-1a: Construction activities associated with potential future development could expose sensitive receptors in close proximity to a construction site to noise that exceeds the established FTA standard of 80 dBA L_{eq}.

Mitigation Measures

Mitigation Measure NOI-1: The construction contractors shall implement the following measures for construction activities in Butte County. Construction plans submitted to the County shall identify these measures on demolition, grading, and construction plans, and the County's Planning and Building Department(s) shall verify that submitted grading, demolition, and/or construction plans include these notations prior to issuance of demolition, grading, and/or building permits:

- Construction activity is limited to the daytime hours exempted in the County Code, Chapter 41A, Noise Control, and by Policy HS-P1.7, and shall adhere to Construction control noise measures in Policy HS-P1.9.
- During the entire active construction period, equipment and trucks used for project construction shall use the best-available noise control techniques (e.g., improved mufflers, equipment redesign, use of intake silencers, ducts, engine enclosures, and acoustically attenuating shields or shrouds).
- Impact tools (e.g., jack hammers and hoe rams) shall be hydraulically or electrically powered wherever possible. Where the use of pneumatic tools is unavoidable, an exhaust muffler on the compressed air exhaust shall be used along with external noise jackets on the tools.
- Stockpiling shall be located as far as feasible from nearby noise-sensitive receptors.
- Construction traffic shall be limited, to the extent feasible, to approved haul routes established by the County Planning and Building Department(s).
- At least 10 days prior to the start of construction activities, a sign shall be posted at the entrance(s) to the job site, clearly visible to the public, that includes permitted construction days and hours, as well as the telephone numbers of the County's and contractor's authorized representatives that are assigned to respond in the event of a noise or vibration complaint. If the authorized contractor's representative receives a complaint, they shall investigate, take appropriate corrective action, and report the action to the County.
- Signs shall be posted at the job site entrance(s), within the on-site construction zones, and along queueing lanes (if any) to reinforce the prohibition of unnecessary engine idling. All other equipment shall be turned off if not in use for more than 5 minutes.
- During the entire active construction period and to the extent feasible, the use of noise-producing signals, including horns, whistles, alarms, and bells, shall be for safety warning purposes only. The construction manager shall use smart back-up alarms, which automatically adjust the alarm level

based on the background noise level or switch off back-up alarms and replace with human spotters in compliance with all safety requirements and laws.

- Erect temporary noise barriers (at least as high as the exhaust of equipment and breaking line-of-sight between noise sources and sensitive receptors), as necessary and feasible, to maintain construction noise levels at or below the performance standard of 80 dBA L_{eq}. Barriers shall be constructed with a solid material that has a density of at least 4 pounds per square foot with no gaps from the ground to the top of the barrier.

Level of Significance After Mitigation: NOI-1 would be significant and unavoidable.

Upper Ridge Community Plan

As discussed in Chapter 3, *Project Description*, of this Draft EIR, the Upper Ridge Community Plan would increase development potential in the Upper Ridge community with 28 parcels redesignated from Retail and Office to Mixed-Use land uses in the Old Magalia and Magalia Center neighborhoods. Potential future development under the Upper Ridge Community Plan would consist of new development in the Magalia Center and the Old Magalia neighborhoods. Implementation of the Upper Ridge Community Plan would result in growth in population and the development of new residential and nonresidential projects in the city.

Development under the Upper Ridge Community Plan would result in an increase in construction noise that would temporarily increase the ambient noise environment in the vicinity of each individual project, potentially affecting existing and future nearby sensitive uses. The proposed Health and Safety Element policies, above, would help minimize the effects of intermittent and short-term construction noise. However, because construction activities associated with any individual development may occur near noise-sensitive receptors and because, depending on the project type, equipment list, time of day, phasing, and overall construction durations, noise disturbances may occur for prolonged periods of time or during the more sensitive nighttime hours, construction noise impacts associated with implementation of the project in the Upper Ridge Community Plan Area are considered potentially significant.

Transportation Noise

Buildout of the General Plan would result in an increase in traffic along county roadways proximate to existing sensitive receptors. Figures 5.13-29 through 5.13-52 illustrate the modeled roadways and future 2040 noise contours for 60, 65, and 70 dBA CNEL. Table 5.13-7 shows the estimated traffic noise increase along study roadway segments, and the complete distances to the 70, 65, and 60 dBA CNEL noise contours for roadway segments in the county are in Appendix 5.13-1.

The traffic noise increase is the difference between the projected future noise level and the existing noise level. As shown in Table 5.13-7, significant traffic noise increases are estimated along several of the study roadway segments from implementation of the General Plan 2040. Noise Element Policies HS-P1.2 and HS-P1.3 would help minimize and mitigate traffic noise impacts. However, traffic noise increases on the roadway segments shown in bold in Table 5.13.-7 would remain significant.

Level of Significance Before Mitigation: NOI-1 would be potentially significant.

Impact NOI-1b: Construction activities associated with potential future development could expose sensitive receptors in close proximity to a construction site to noise that exceeds the established FTA standard of 80 dBA L_{eq}.

Mitigation Measures

There are no feasible mitigation measures.

Level of Significance After Mitigation: NOI-1 would be significant and unavoidable.

TABLE 5.13-7 TRAFFIC NOISE INCREASES ALONG STUDY ROADWAY SEGMENTS

Roadway	Segment	Existing (2018) Average Daily Traffic	Future 2040 Average Daily Traffic	Existing (2018) CNEL at 50 feet, dBA	Future (2040) CNEL at 50 feet, dBA	Traffic Noise Increase
State Route 32	Muir Avenue to East Avenue	13,500	13,510	69.0	69.0	0.0
State Route 32	East Avenue to West Sacramento Avenue	21,500	21,510	68.4	68.4	0.0
State Route 32	West Sacramento Avenue to West 1st Street	20,500	20,510	67.8	67.8	0.0
State Route 32	West 1st Street to West 5th Street	24,000	24,010	68.7	68.7	0.0
State Route 32	West 5th Street to 8th/9th/Walnut Street	22,300	22,330	68.5	68.5	0.0
State Route 32	8th Street (One way West Bound), Walnut Street to Main Street	13,900	14,200	66.6	66.7	0.1
State Route 32	9th Street (One way East Bound), Walnut to Main	9,900	10,130	64.7	64.8	0.1
State Route 32	8th Street (West Bound), Main to State Route 99	16,800	18,500	67.0	67.5	0.4
State Route 32	9th Street (East Bound), Main Street to State Route 99	16,900	18,140	67.4	67.7	0.3
State Route 32	State Route 99 to Yosemite	17,600	21,880	70.4	71.4	0.9
State Route 32	Yosemite Drive to Humboldt Road	5,250	5,260	66.2	66.2	0.0
State Route 32	Humboldt Road to Robert East Lee Drive	3,400	3,410	64.3	64.3	0.0
State Route 70	Yuba County Line to Lower Honcut Road	15,200	15,210	73.5	73.5	0.0
State Route 70	Lower Honcut Road to East Gridley Road	15,000	15,010	73.5	73.5	0.0
State Route 70	East Gridley Road to Palermo Road	17,000	17,010	74.7	74.7	0.0
State Route 70	Palermo Road to State Route 162	16,900	16,910	74.5	74.5	0.0
State Route 70	State Route 162 to Montgomery Street	22,700	34,080	75.8	77.6	1.8
State Route 70	Montgomery Street to Grand Avenue	28,900	43,470	76.9	78.7	1.8
State Route 70	Grand Avenue to State Route 149	26,200	43,130	76.5	78.6	2.2
State Route 70	State Route 149 to State Route 191	8,050	10,040	68.4	69.4	1.0
State Route 70	State Route 191 to Pentz Road	3,400	3,830	64.3	64.8	0.5
State Route 70	Pentz Road to Big Bend Road	2,100	2,110	62.3	62.3	0.0
State Route 99	Sutter County line to Archer Avenue	16,500	16,510	71.8	71.9	0.0
State Route 99	Archer Avenue to Spruce Street	23,900	23,940	68.7	68.7	0.0
State Route 99	Spruce Street to East Biggs Highway	14,400	16,350	71.6	72.2	0.6
State Route 99	East Biggs Highway State Route 162	12,000	13,780	71.2	71.8	0.6
State Route 99	State Route 162 to State Route 149	10,900	12,350	70.4	71.0	0.5

Roadway	Segment	Existing (2018) Average Daily Traffic	Future 2040 Average Daily Traffic	Existing (2018) CNEL at 50 feet, dBA	Future (2040) CNEL at 50 feet, dBA	Traffic Noise Increase
State Route 99	**State Route 149 to Durham - Pentz Road**	**27,100**	**43,740**	**76.6**	**78.7**	**2.1**
State Route 99	**Durham - Pentz Rd to Skyway**	**39,000**	**57,480**	**78.3**	**80.0**	**1.7**
State Route 99	Skyway to East 20th Street	60,000	75,860	80.1	81.1	1.0
State Route 99	East 20th to State Route 32	76,000	93,540	81.1	82.0	0.9
State Route 99	State Route 32 to Cohasset Road	66,400	78,680	80.5	81.2	0.7
State Route 99	Cohasset Road to East Avenue	46,500	55,470	78.8	79.6	0.8
State Route 99	East Avenue to Eaton Road	33,500	41,940	77.4	78.4	1.0
State Route 99	Eaton Road to Keefer Road	18,100	18,110	73.3	73.3	0.0
State Route 149	**State Route 70 to State Route 99**	**18,900**	**34,020**	**75.0**	**77.6**	**2.6**
State Route 162	Glenn County line to State Route 99	1,600	1,610	56.2	56.3	0.0
State Route 162	State Route 99 to Larkin Road	2,600	3,160	67.6	68.4	0.8
State Route 162	Larkin Road to State Route 70	13,800	18,460	67.0	68.3	1.3
State Route 162	State Route 70 to Feather River Boulevard	31,500	37,670	70.1	70.9	0.8
State Route 162	Feather River Boulevard to Lincoln Boulevard	30,000	33,730	70.0	70.5	0.5
State Route 162	Lincoln Boulevard to Olive Highway	30,500	33,610	70.2	70.6	0.4
State Route 162	Olive Highway to Lower Wyandotte Road	30,500	34,290	68.0	68.5	0.5
State Route 162	Lower Wyandotte Road to Foothill Boulevard	29,000	32,550	72.5	73.0	0.5
State Route 162	Foothill Boulevard to Canyon Drive	12,200	15,240	68.3	69.2	1.0
State Route 162	Canyon Drive to Forbestown Road	6,200	8,900	63.9	65.4	1.6
State Route 191	State Route 70 to Durham-Pentz Road	5,000	6,610	62.5	63.7	1.2
State Route 191	Durham-Pentz Road to Airport Road	5,600	5,680	62.6	62.7	0.1
State Route 191	Airport Road to Bushmann Road	5,900	6,040	62.8	62.9	0.1
State Route 191	Buschmann Road to Pearson Road	9,200	9,290	64.7	64.8	0.0
Aguas Frias Road	Durham-Dayton Road to Grainland Avenue	742	750	48.2	48.2	0.0
Aguas Frias Road	Grainland Avenue to State Route 162	583	590	47.6	47.7	0.1
Biggs East Highway	Biggs to State Route 99	2,319	3,040	59.1	60.2	1.2
Biggs East Highway	State Route 99 to Larkin Road	2,753	3,550	60.5	61.6	1.1
Clark Road	Wagstaff Road to Skyway	10,519	10,520	64.8	64.8	0.0

Roadway	Segment	Existing (2018) Average Daily Traffic	Future 2040 Average Daily Traffic	Existing (2018) CNEL at 50 feet, dBA	Future (2040) CNEL at 50 feet, dBA	Traffic Noise Increase
Cohasset Road	State Route 99 to East Avenue	22,065	24,590	70.7	71.1	0.5
Cohasset Road	East Avenue to Lupin Road	18,364	20,470	70.0	70.4	0.5
Cohasset Road	East Eaton Road to Boeing Drive	10,222	12,010	66.5	67.2	0.7
Cohasset Road	Lassen Avenue to Boeing Drive	12,500	13,630	67.5	67.9	0.4
Cohasset Road	Boeing Drive to Keefer Road	3,000	3,140	62.0	62.2	0.2
Cohasset Road	Keefer Road to Vilas Road	1,562	1,710	56.3	56.6	0.4
Colusa Highway	Colusa County line to Pennington Road	669	670	52.4	52.4	0.0
Colusa Highway	Pennington Road to Biggs Gridley Road	3,546	3,950	59.7	60.2	0.5
Colusa Highway	Biggs Gridley Road to State Route 99	3,273	4,390	61.7	63.0	1.3
Dayton Road	State Route 32 to Hegan Lane	6,096	6,270	65.7	65.8	0.1
Dayton Road	Hegan Lane to Rodgers Avenue	3,059	3,060	62.3	62.3	0.0
Durham-Dayton Highway	Dayton Road to Midway	4,300	4,310	60.7	60.7	0.0
Durham-Dayton Highway	Midway to Stanford Lane	2,000	2,240	59.2	59.7	0.5
Durham-Dayton Highway	Stanford Lane to State Route 99	2,239	2,680	62.2	62.9	0.8
Durham–Pentz Road	State Route 99 to State Route 191	9,417	11,530	67.3	68.1	0.9
Durham–Pentz Road	State Route 191 to Pentz Road	2,283	2,480	57.9	58.2	0.4
East Avenue - Manzanita Avenue - Bruce Avenue	State Route 32 to Cussick Avenue	16,355	16,360	69.9	69.9	0.0
East Avenue - Manzanita Avenue - Bruce Avenue	Cussick Avenue to Esplanade	23,814	25,070	71.7	71.9	0.2
East Avenue - Manzanita Avenue - Bruce Avenue	Esplanade to State Route 99	24,468	25,570	68.7	68.9	0.2
East Avenue - Manzanita Avenue - Bruce Avenue	State Route 99 to Cohasset Road	13,353	13,360	66.3	66.3	0.0

Roadway	Segment	Existing (2018) Average Daily Traffic	Future 2040 Average Daily Traffic	Existing (2018) CNEL at 50 feet, dBA	Future (2040) CNEL at 50 feet, dBA	Traffic Noise Increase
East Avenue - Manzanita Avenue - Bruce Avenue	Floral Avenue to Coleman Ct.	18,036	18,040	69.3	69.3	0.0
East Avenue - Manzanita Avenue - Bruce Avenue	Floral Avenue to Mariposa Avenue	17,500	17,510	69.2	69.2	0.0
East Avenue - Manzanita Avenue - Bruce Avenue	Mariposa Avenue to Marigold Avenue	10,000	10,010	66.9	66.9	0.0
East Avenue - Manzanita Avenue - Bruce Avenue	Marigold Avenue to Manzanita Avenue	10,000	10,010	67.4	67.4	0.0
East Avenue - Manzanita Avenue - Bruce Avenue	East Avenue to Vallombrosa Avenue	11,858	12,370	68.6	68.8	0.2
East Avenue - Manzanita Avenue - Bruce Avenue	California Park Drive to State Route 32	11,363	12,540	68.4	68.8	0.4
East Gridley Road	State Route 99 to Larkin Road	6,038	7,720	63.0	64.1	1.1
East Gridley Road	Larkin Road to State Route 70	5,500	7,180	62.6	63.7	1.2
Eaton Road	Esplanade to State Route 99	16,834	19,420	70.3	71.0	0.6
Eaton Road	**State Route 99 to Hicks Lane**	**9,500**	**13,850**	**67.6**	**69.2**	**1.6**
Eaton Road	Hicks Lane to Cohasset Road	9,728	10,180	67.7	67.9	0.2
Esplanade	State Route 99 to Garner Lane	1,000	1,010	57.4	57.4	0.0
Esplanade	Garner Lane to Eaton Road	12,981	13,400	70.0	70.1	0.1
Esplanade	Eaton Road to Lassen Avenue	15,539	16,250	67.4	67.5	0.2
Esplanade	Lassen Avenue to East Avenue	22,622	23,580	68.8	69.0	0.2
Esplanade	East Avenue to Cohasset Road	20,558	20,560	68.5	68.5	0.0
Esplanade	Cohasset Road to East 9th Avenue	24,099	24,670	69.5	69.6	0.1
Esplanade	East 2nd Avenue to East Sacramento Avenue	22,206	22,870	70.9	71.1	0.1
Esplanade	East Sacramento Avenue to Main Street/Broadway	20,748	20,750	70.1	70.1	0.0

Roadway	Segment	Existing (2018) Average Daily Traffic	Future 2040 Average Daily Traffic	Existing (2018) CNEL at 50 feet, dBA	Future (2040) CNEL at 50 feet, dBA	Traffic Noise Increase
Main Street (NB)	Esplanade/East 1st Street to 9th Street	10,724	10,730	66.8	66.8	0.0
Broadway (SB)	Esplanade/East 1st Street to 9th Street	8,638	8,640	63.4	63.4	0.0
Park Avenue	East 9th Street to 16th Street	18,405	18,410	67.6	67.6	0.0
Park Avenue	East 16th Street to East 20th Street	17,988	17,990	67.6	67.6	0.0
Park Avenue	East 20th Street to East Park Avenue	12,136	12,140	65.6	65.6	0.0
East Park Avenue	Park Avenue to State Route 99	18,760	18,820	67.2	67.2	0.0
Forbestown Road	State Route 162 to Lumpkin Road	3,154	4,290	59.3	60.6	1.3
Hegan Lane	Dayton Road to Southern Pacific (S.P.) Railroad tracks	3,454	3,460	63.0	63.0	0.0
Hegan Lane	Southern Pacific (S.P.) Railroad tracks to Midway	11,061	11,070	69.1	69.1	0.0
Honey Run Road	Skyway to Centerville Road	1,500	3,050	54.1	57.2	3.1
Centerville Road	Skyway to Honey Run Road	1,404	1,410	53.8	53.8	0.0
Nimshew Road	Centerville to Skyway	500	530	47.0	47.3	0.3
Larkin Road	State Route 162 to East Hamilton Road	4,603	8,080	64.4	66.8	2.4
Larkin Road	East Hamilton Road to East Biggs Highway	2,968	4,030	64.2	65.5	1.3
Larkin Road	East Biggs Highway to East Gridley Highway	1,327	1,710	61.4	62.5	1.1
Larkin Road	East Evans Reimer Road to County line	2,954	2,960	63.2	63.2	0.0
Lincoln Boulevard	State Route 162 to Marysville Baggett Road	12,713	14,520	66.6	67.2	0.6
Lincoln Boulevard	Marysville Baggett Road to Monte Vista Avenue	11,618	12,910	66.7	67.2	0.5
Lincoln Boulevard	Monte Vista Avenue to Ophir Road	7,200	8,760	66.8	67.6	0.9
Lincoln Boulevard	Ophir Road to Palermo Road	5,890	7,000	65.7	66.4	0.7
Lower Honcut Road	State Route 70 to Palermo Honcut Highway	1,058	1,060	54.7	54.7	0.0
Lower Honcut Road	Palermo Honcut Highway to LaPorte Road	500	510	51.2	51.3	0.1
LaPorte Road	Lower Honcut Road to Oro-Bangor Highway	1,000	1,010	54.3	54.3	0.0
Lower Wyandotte Road	State Route 162 to Oro-Bangor Highway	7,748	8,240	64.3	64.5	0.3
Lower Wyandotte Road	Oro-Bangor Highway to Ophir Road	6,000	6,480	68.6	68.9	0.3
Lower Wyandotte Road	Ophir Road to Foothill Boulevard	7,025	8,240	67.3	68.0	0.7

Roadway	Segment	Existing (2018) Average Daily Traffic	Future 2040 Average Daily Traffic	Existing (2018) CNEL at 50 feet, dBA	Future (2040) CNEL at 50 feet, dBA	Traffic Noise Increase
Upper Palermo Road	Ophir Road to Palermo Road	3,638	3,740	65.8	65.9	0.1
Palermo Honcut Highway	Palermo Road to Lower Honcut Road	1,000	1,120	59.9	60.3	0.5
Midway	East Park Avenue to Hegan Lane	16,862	16,870	71.1	71.1	0.0
Midway	Hegan Lane to Durham-Dayton Road	9,116	9,560	68.4	68.6	0.2
Montgomery Street	State Route 70 to Lincoln Boulevard	6,802	8,880	63.9	65.0	1.2
Montgomery Street	Lincoln Boulevard to Table Mountain Boulevard	6,574	7,330	63.1	63.5	0.5
Oroville - Bangor Highway	Lincoln Boulevard to Lower Wyandotte Road	1,867	1,960	52.7	52.9	0.2
Oroville - Bangor Highway	Lower Wyandotte Road to Foothill Boulevard	2,000	2,130	58.2	58.4	0.3
Oroville - Bangor Highway	Foothill Boulevard to Swedes Flat Road	1,594	1,710	54.4	54.7	0.3
Oroville - Bangor Highway	north of Swedes Flat Road	2,073	2,650	57.7	58.7	1.1
Palermo Road	Upper Palermo Road to Lincoln Boulevard	1,200	1,630	60.9	62.2	1.3
Palermo Road	Lincoln Boulevard to Lone Tree Road	1,100	1,820	60.9	63.1	2.2
Palermo Road	Lone Tree Road to State Route 70	1,179	1,680	61.1	62.6	1.5
Pentz Road	State Route 70 to Messilla Valley Road	3,507	3,510	60.0	60.0	0.0
Pentz Road	Malibu Drive to De Mille Road	4,301	4,370	61.1	61.1	0.1
Skyway	State Route 99 to Notre Dame Boulevard	31,404	37,590	70.2	71.0	0.8
Skyway	Notre Dame Boulevard to Bruce Road	22,455	25,820	68.5	69.1	0.6
Skyway	Bruce Road to Honey Run Road	21,879	22,800	68.4	68.6	0.2
Skyway	Honey Run Road to Neal Road	19,392	19,400	70.4	70.4	0.0
Skyway	Neal Road to Pearson Road	22,253	22,260	68.4	68.4	0.0
Skyway	Pearson Road to Bille Road	20,341	20,350	67.9	67.9	0.0
Skyway	Bille Road to Wagstaff Road	12,246	12,260	65.4	65.4	0.0
Skyway	Wagstaff Road to Clark Road	10,252	10,480	64.6	64.7	0.1
Skyway	Clark Road to Pentz Road	15,450	15,810	66.5	66.6	0.1
Skyway	Pentz Road to South Park Road	16,125	16,350	66.7	66.8	0.1

Roadway	Segment	Existing (2018) Average Daily Traffic	Future 2040 Average Daily Traffic	Existing (2018) CNEL at 50 feet, dBA	Future (2040) CNEL at 50 feet, dBA	Traffic Noise Increase
Skyway	Nimshew Road to Shawnee Lane	1,659	1,700	56.5	56.6	0.1
Skyway	Nimshew Road to Lovelock Road	415	450	50.5	50.9	0.4
Skyway	Lovelock Road to Powellton Road	583	610	52.1	52.3	0.2
Table Mountain Boulevard	Montgomery Street to County Center Drive	13,249	15,100	66.3	66.9	0.6
Table Mountain Boulevard	Nelson Avenue to County Center Drive	5,239	5,540	65.9	66.2	0.2
Ophir Road	**East of Feather River Boulevard**	**6,393**	**9,820**	**66.1**	**68.0**	**1.9**
Foothill Boulevard	South of State Route 162	5,771	6,580	62.0	62.6	0.6
Miners Ranch Road	South of State Route 162	3,025	3,150	62.6	62.8	0.2

Source: Based on FHWA's traffic noise prediction model methodology using roadway volumes, vehicle mix, time of day splits, and number of lanes provided by Fehr & Peers, 2022 (see Appendix 5.13-1of this Draft EIR).

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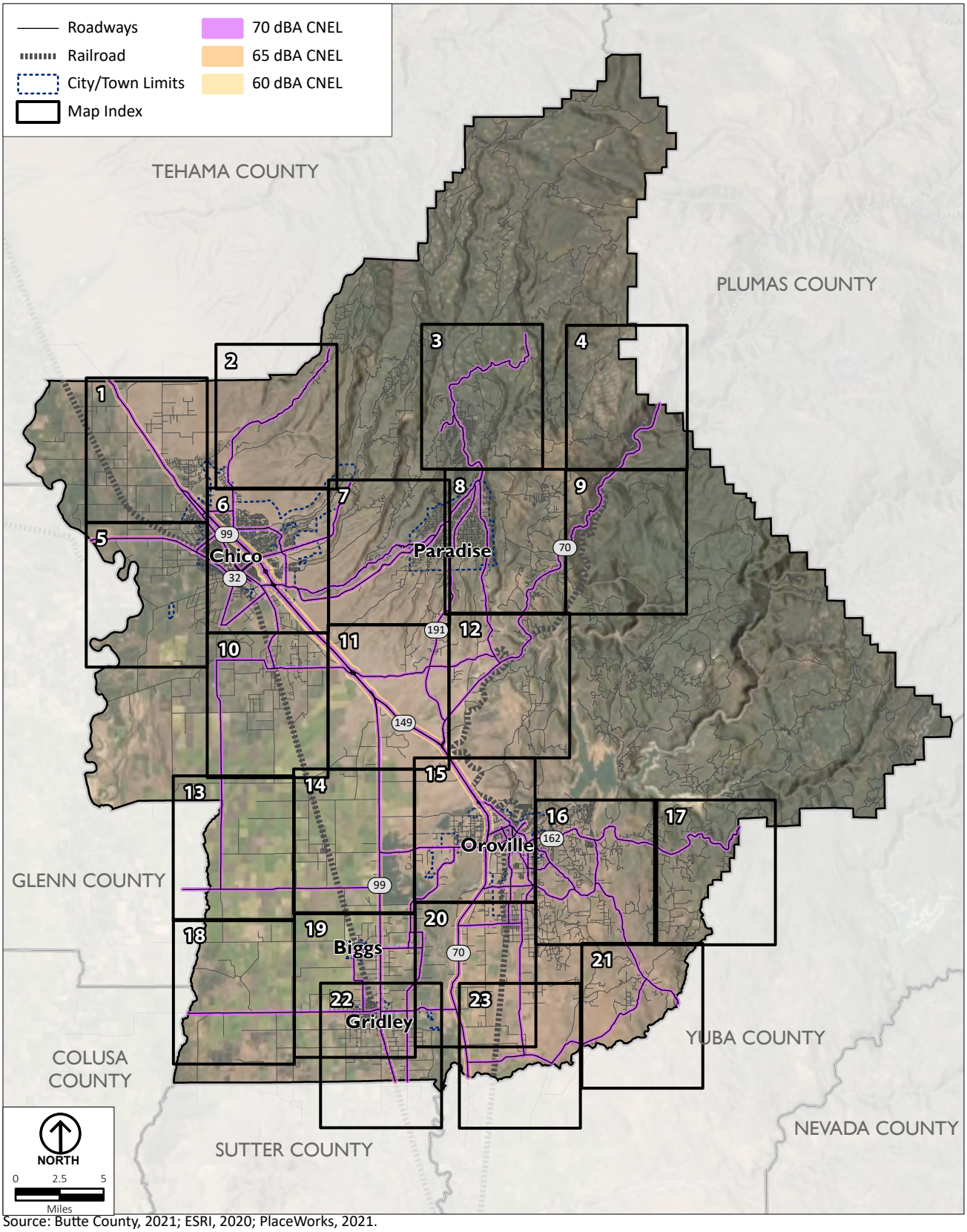
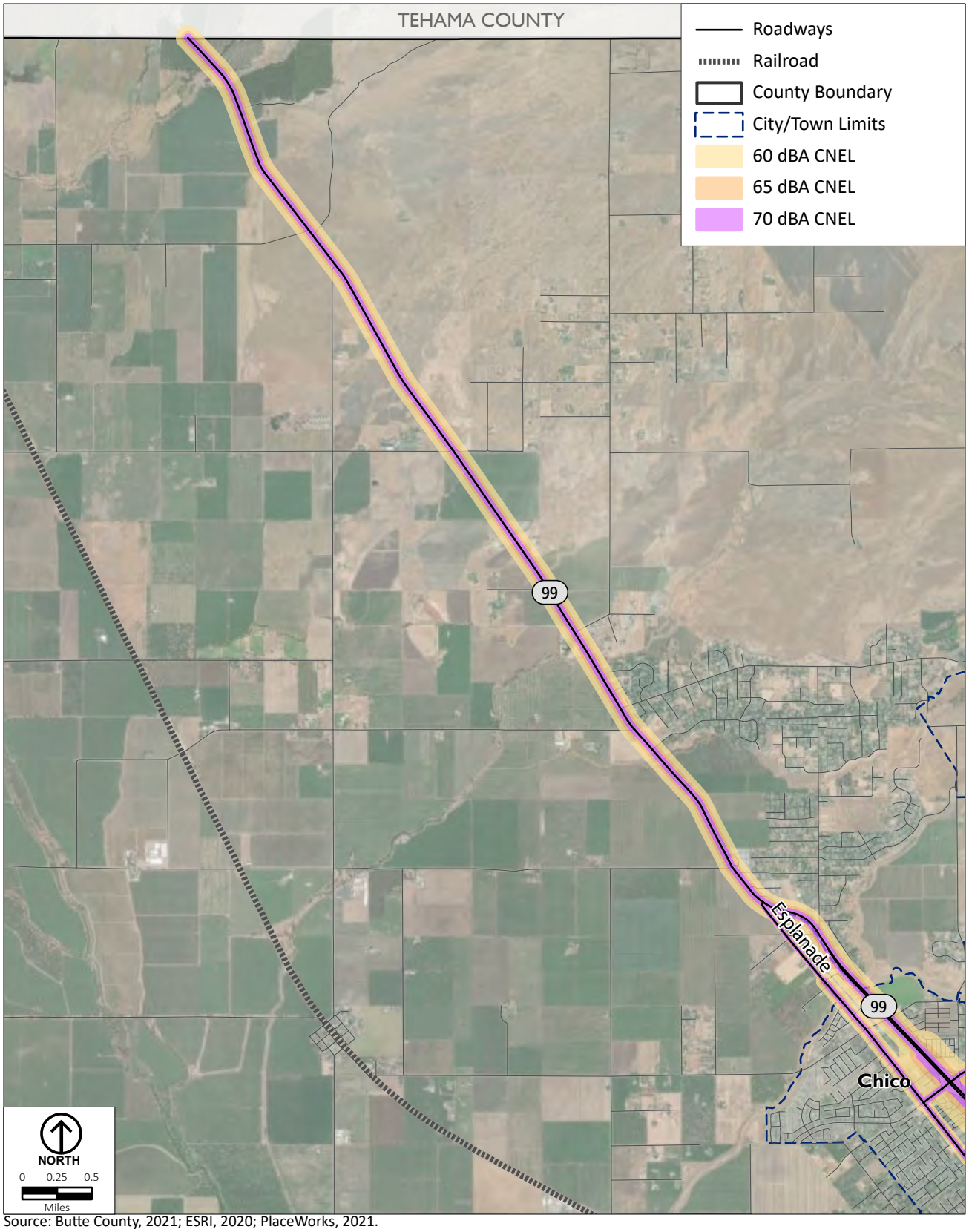


Source: Butte County, 2021; ESRI, 2020; PlaceWorks, 2021.

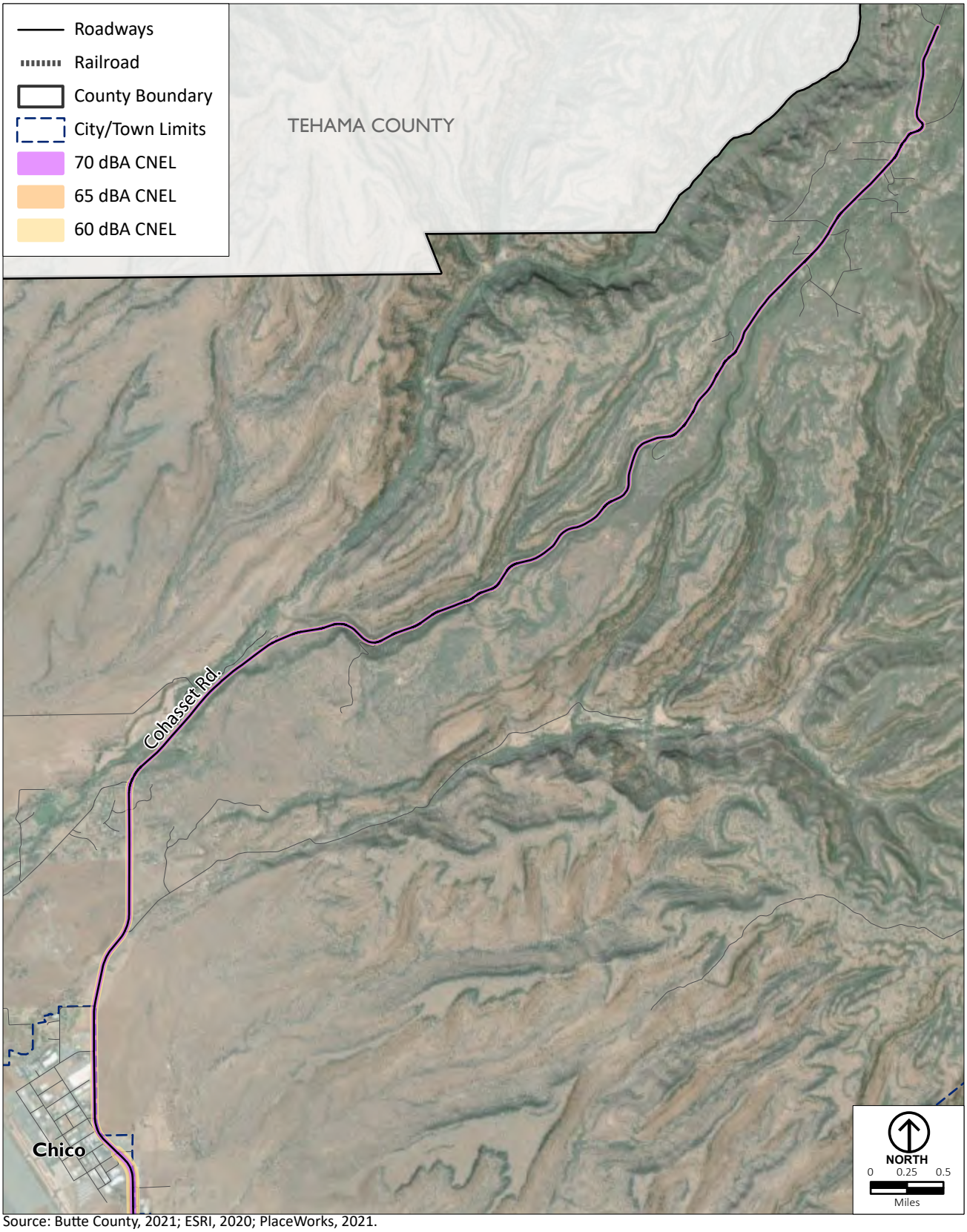
FIGURE 5.13-29
FUTURE NOISE CONTOURS (MAP INDEX)



Source: Butte County, 2021; ESRI, 2020; PlaceWorks, 2021.

FIGURE 5.13-30

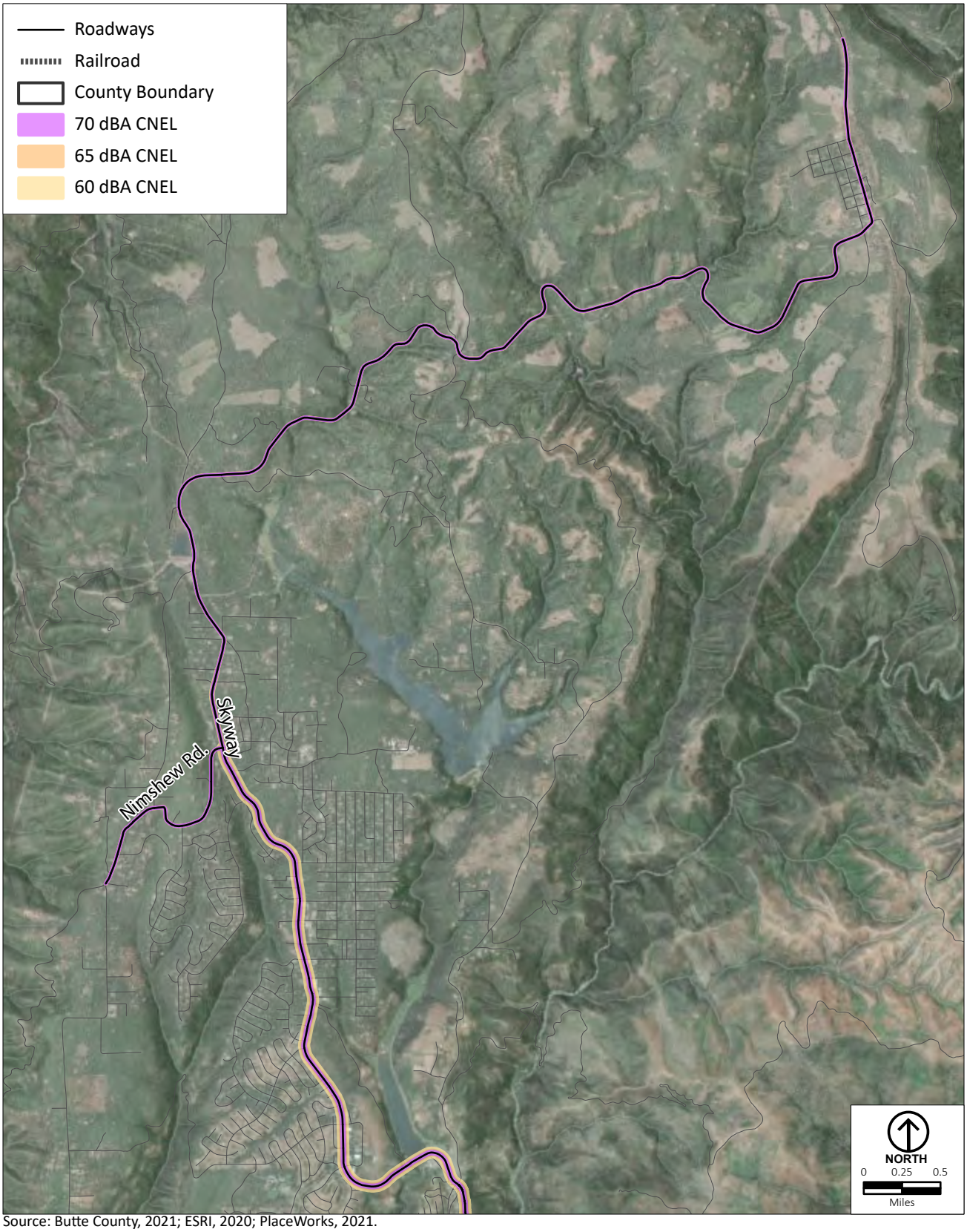
FUTURE TRAFFIC NOISE CONTOURS (MAP 1)



Source: Butte County, 2021; ESRI, 2020; PlaceWorks, 2021.

FIGURE 5.13-31

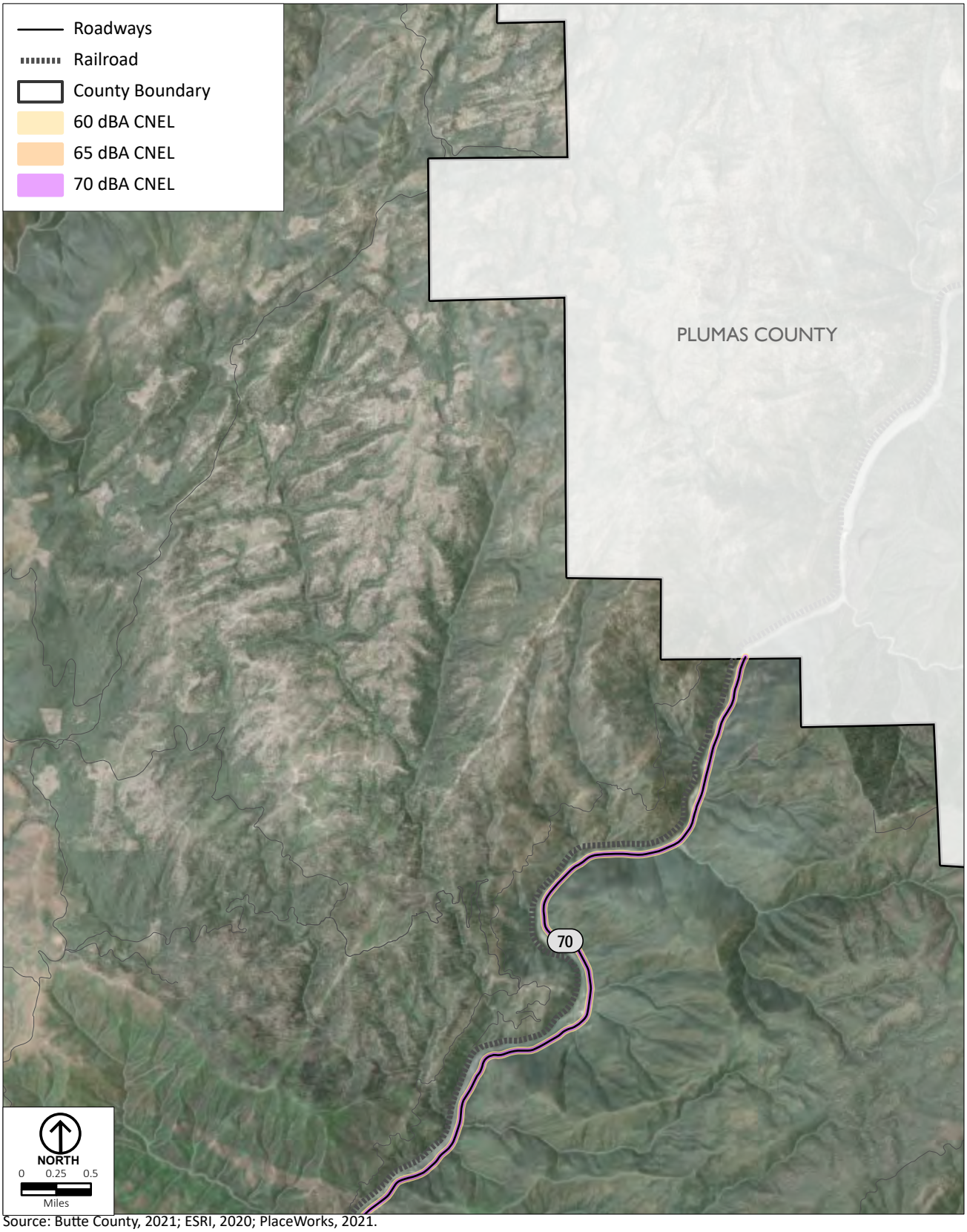
FUTURE TRAFFIC NOISE CONTOURS (MAP 2)



Source: Butte County, 2021; ESRI, 2020; PlaceWorks, 2021.

FIGURE 5.13-32

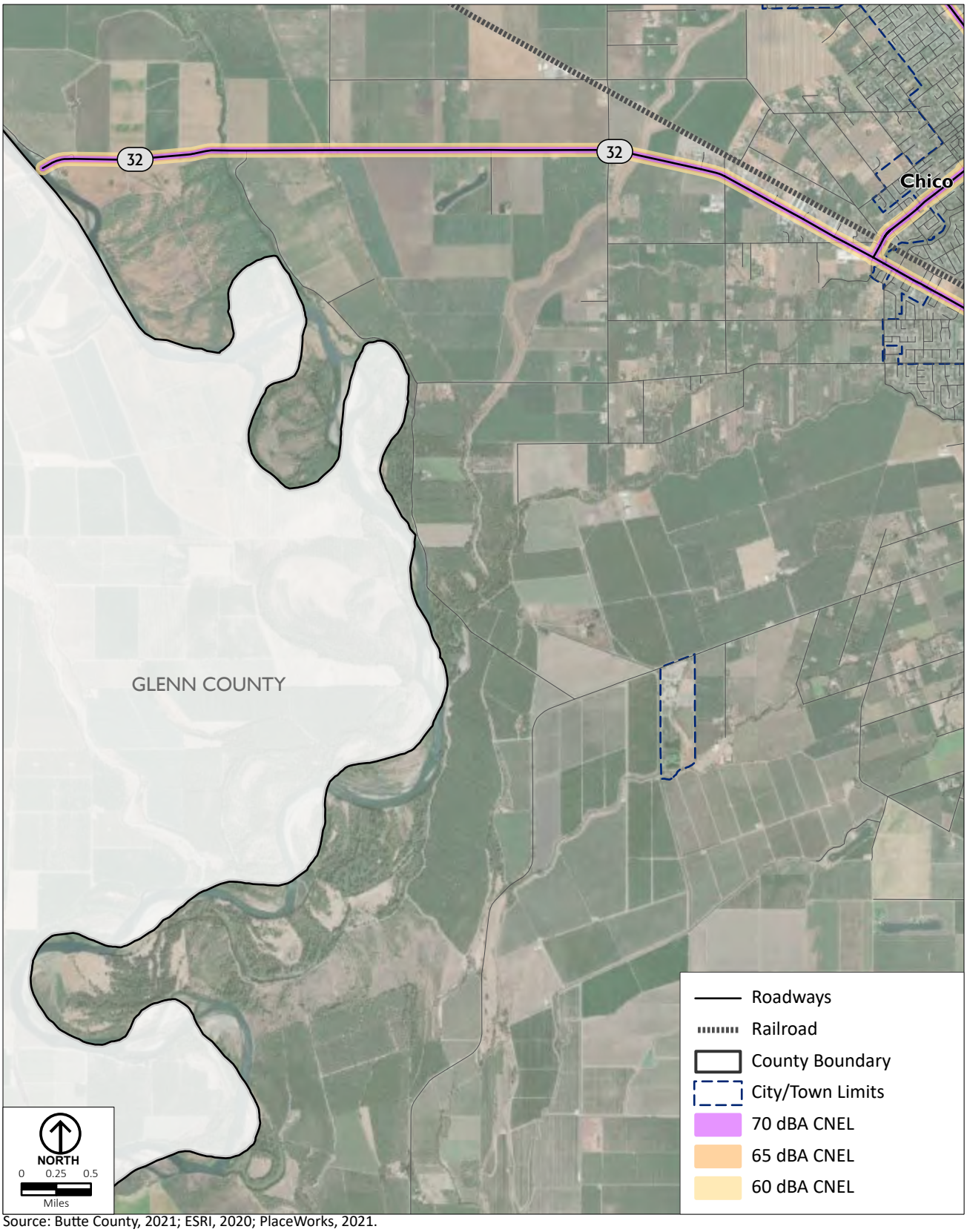
FUTURE TRAFFIC NOISE CONTOURS (MAP 3)



Source: Butte County, 2021; ESRI, 2020; PlaceWorks, 2021.

FIGURE 5.13-33

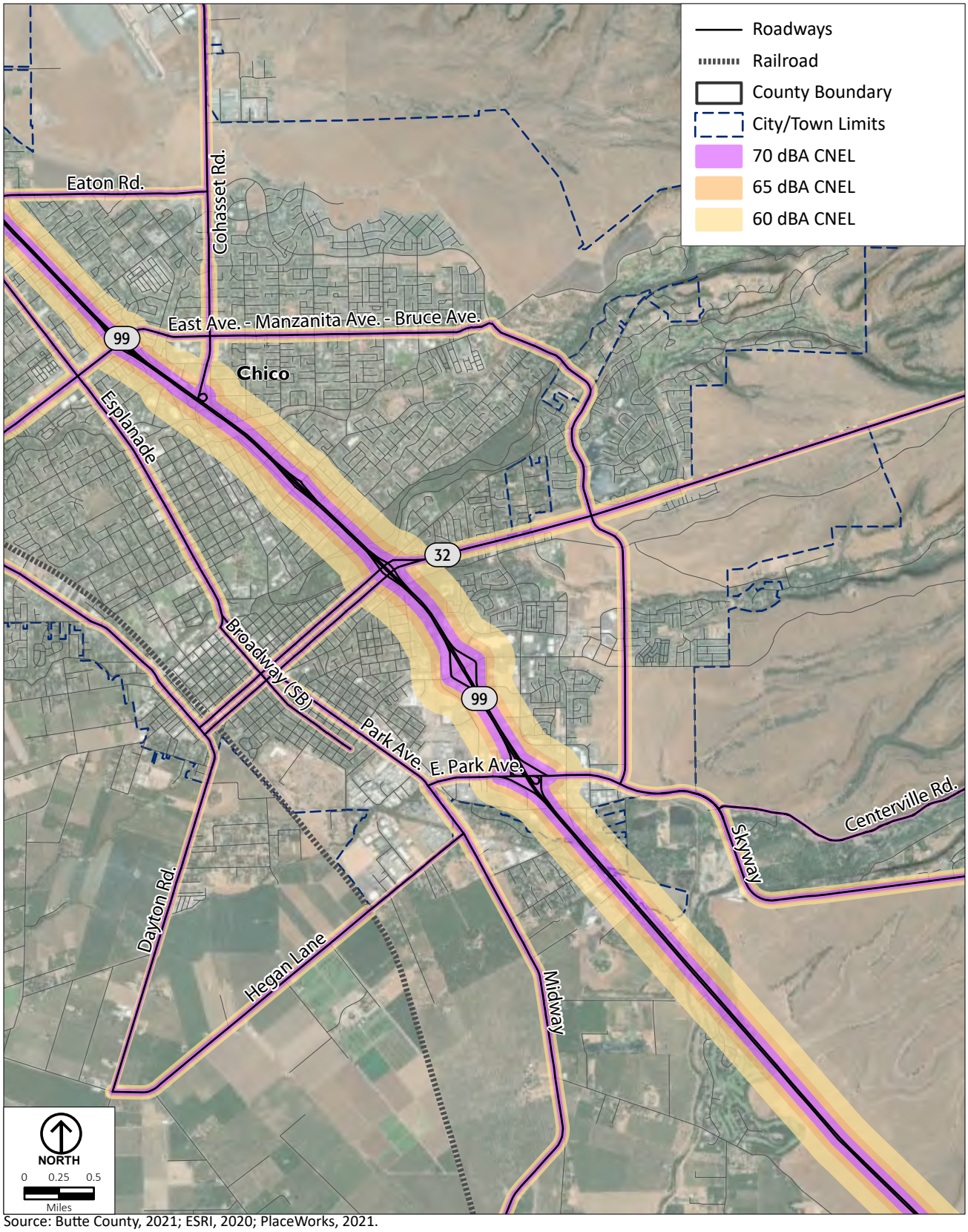
FUTURE TRAFFIC NOISE CONTOURS (MAP 4)



Source: Butte County, 2021; ESRI, 2020; PlaceWorks, 2021.

FIGURE 5.13-34

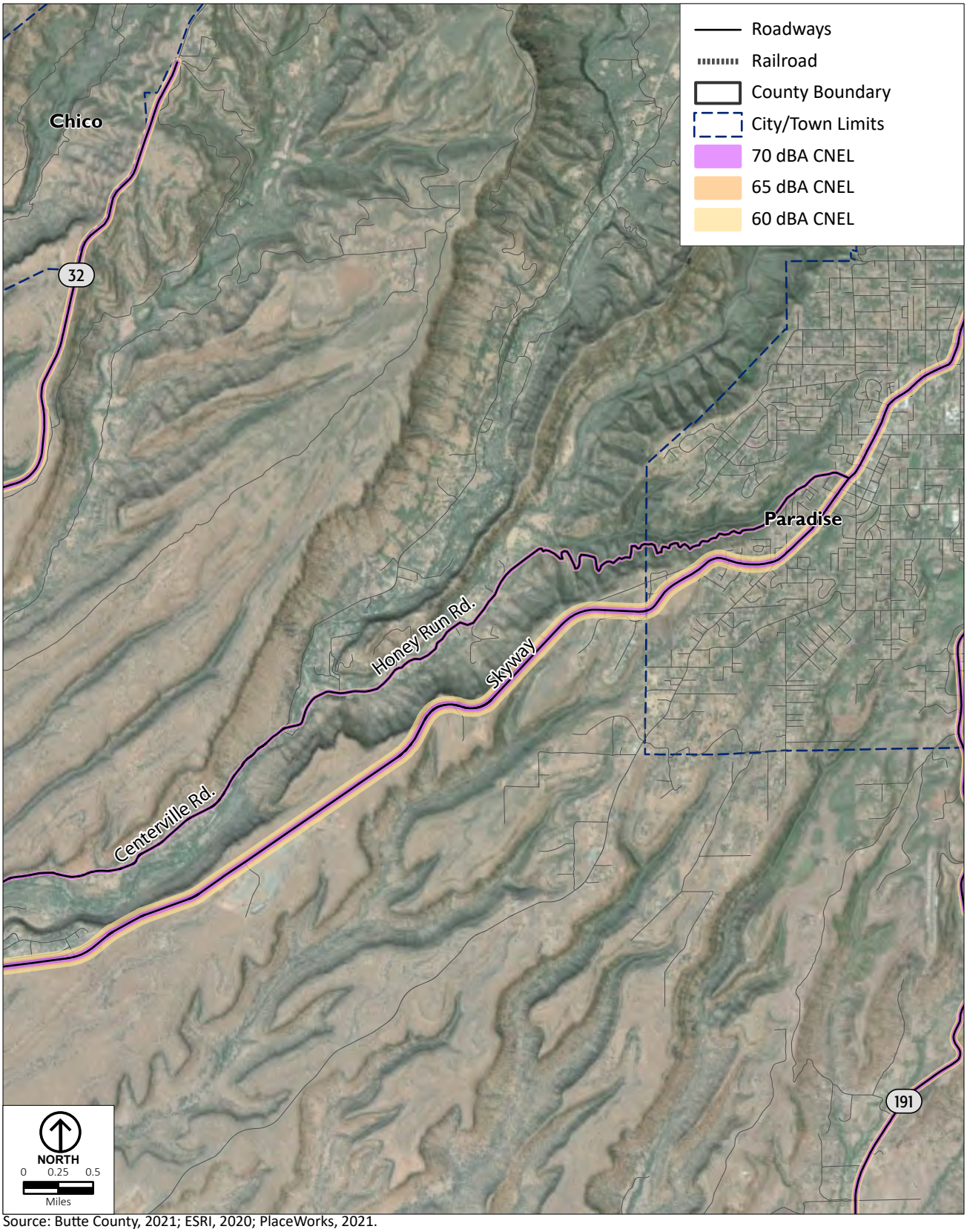
FUTURE TRAFFIC NOISE CONTOURS (MAP 5)



Source: Butte County, 2021; ESRI, 2020; PlaceWorks, 2021.

FIGURE 5.13-35

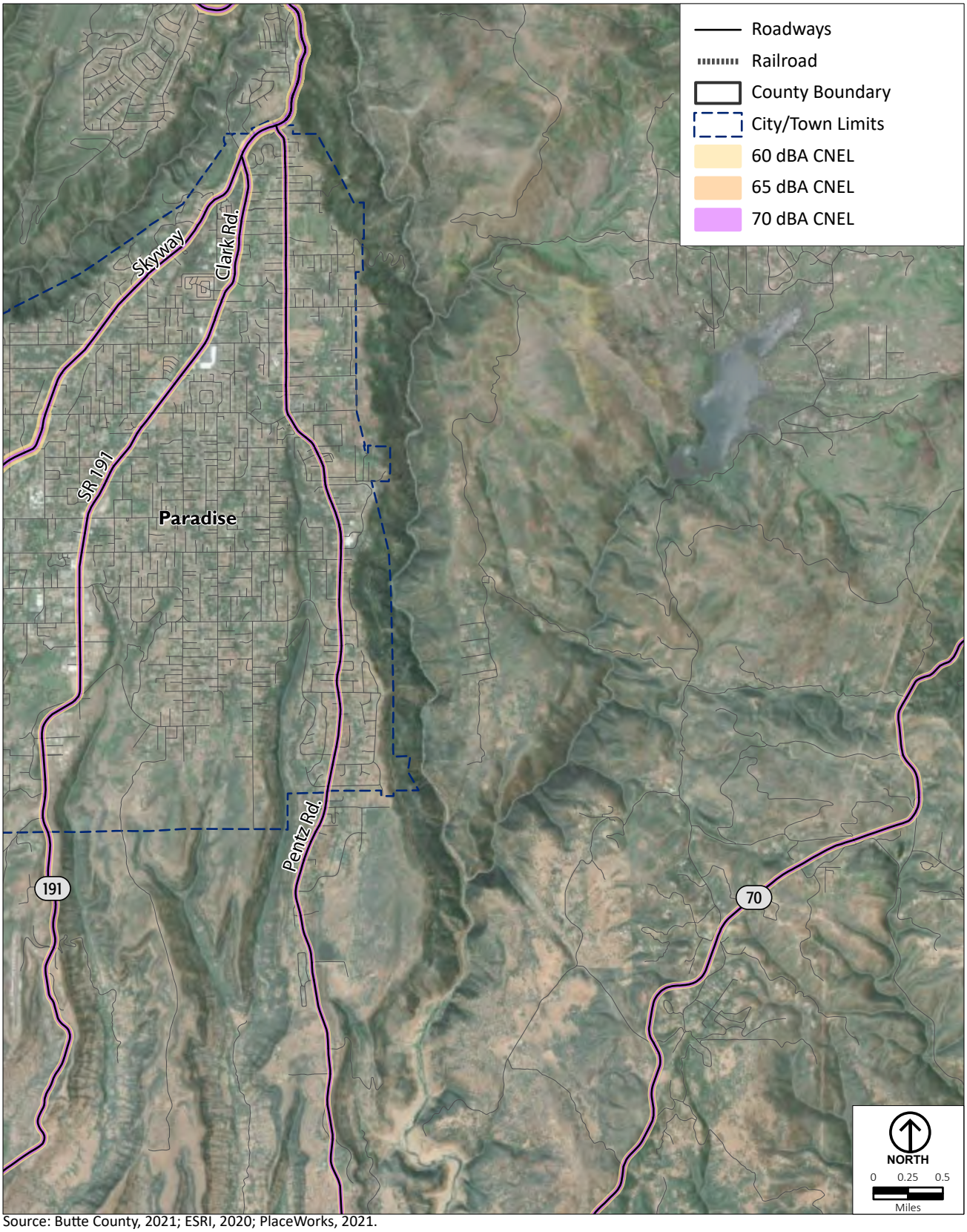
FUTURE TRAFFIC NOISE CONTOURS (MAP 6)



Source: Butte County, 2021; ESRI, 2020; PlaceWorks, 2021.

FIGURE 5.13-36

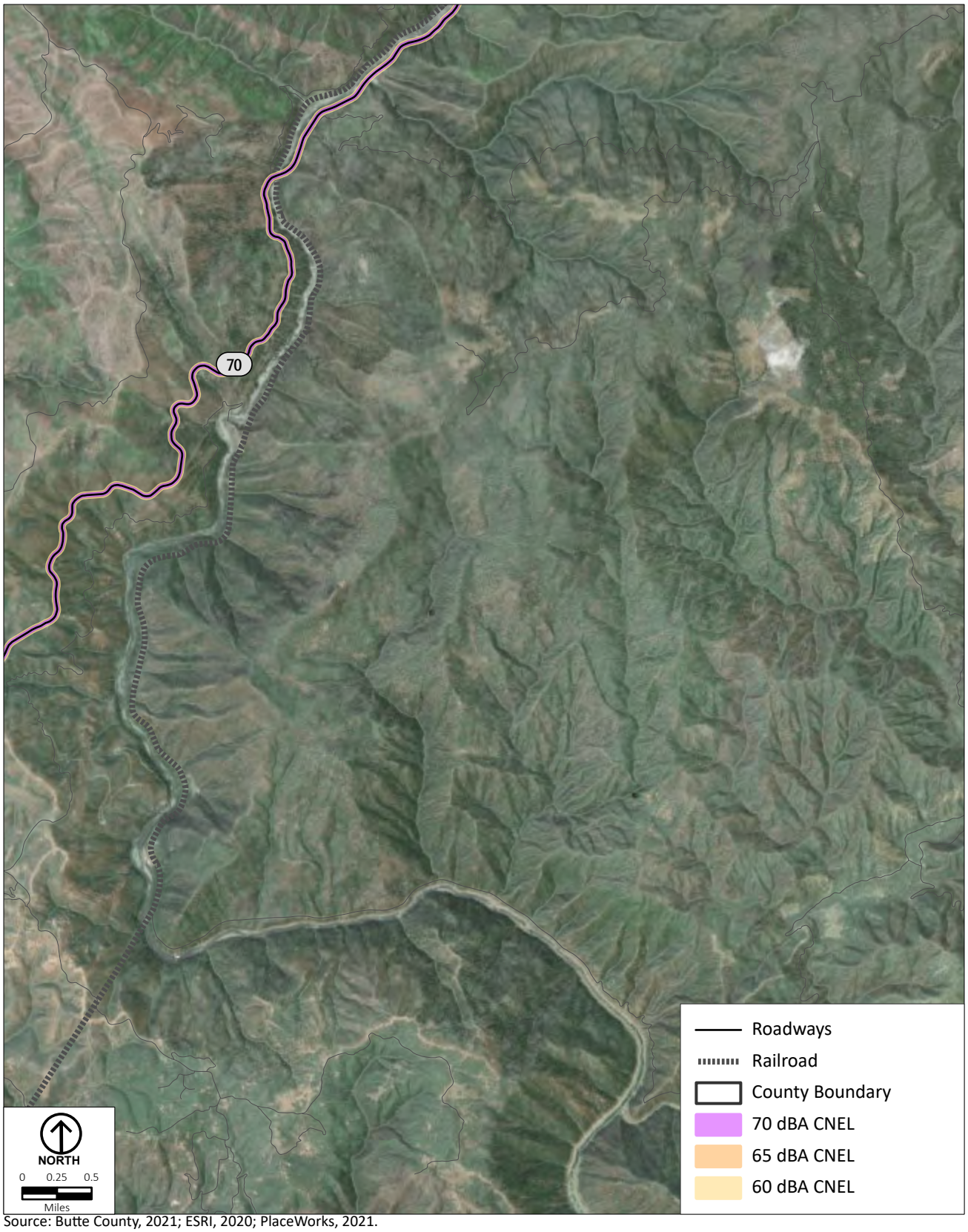
FUTURE TRAFFIC NOISE CONTOURS (MAP 7)



Source: Butte County, 2021; ESRI, 2020; PlaceWorks, 2021.

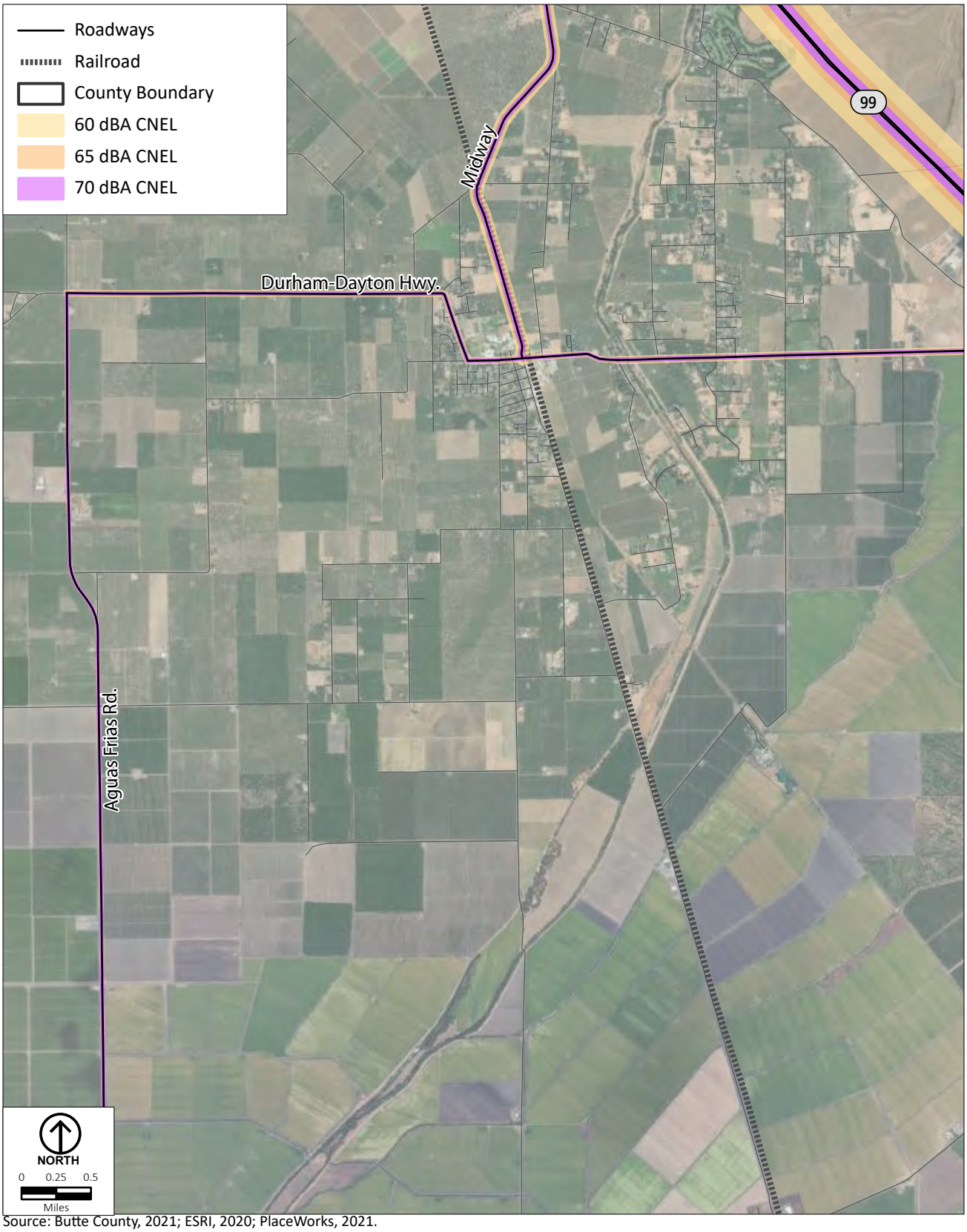
FIGURE 5.13-37

FUTURE TRAFFIC NOISE CONTOURS (MAP 8)



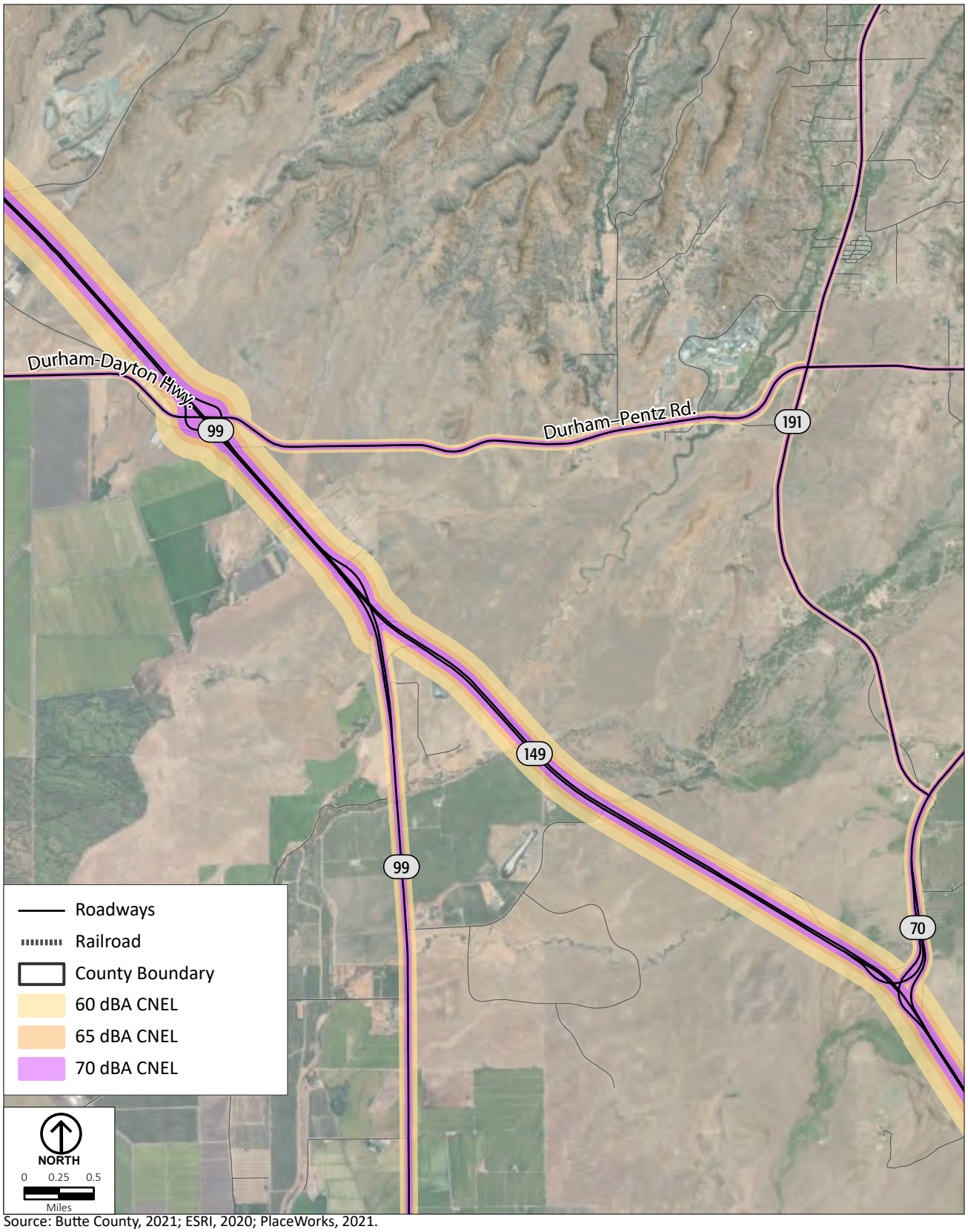
Source: Butte County, 2021; ESRI, 2020; PlaceWorks, 2021.

FIGURE 5.13-38
FUTURE TRAFFIC NOISE CONTOURS (MAP 9)



Source: Butte County, 2021; ESRI, 2020; PlaceWorks, 2021.

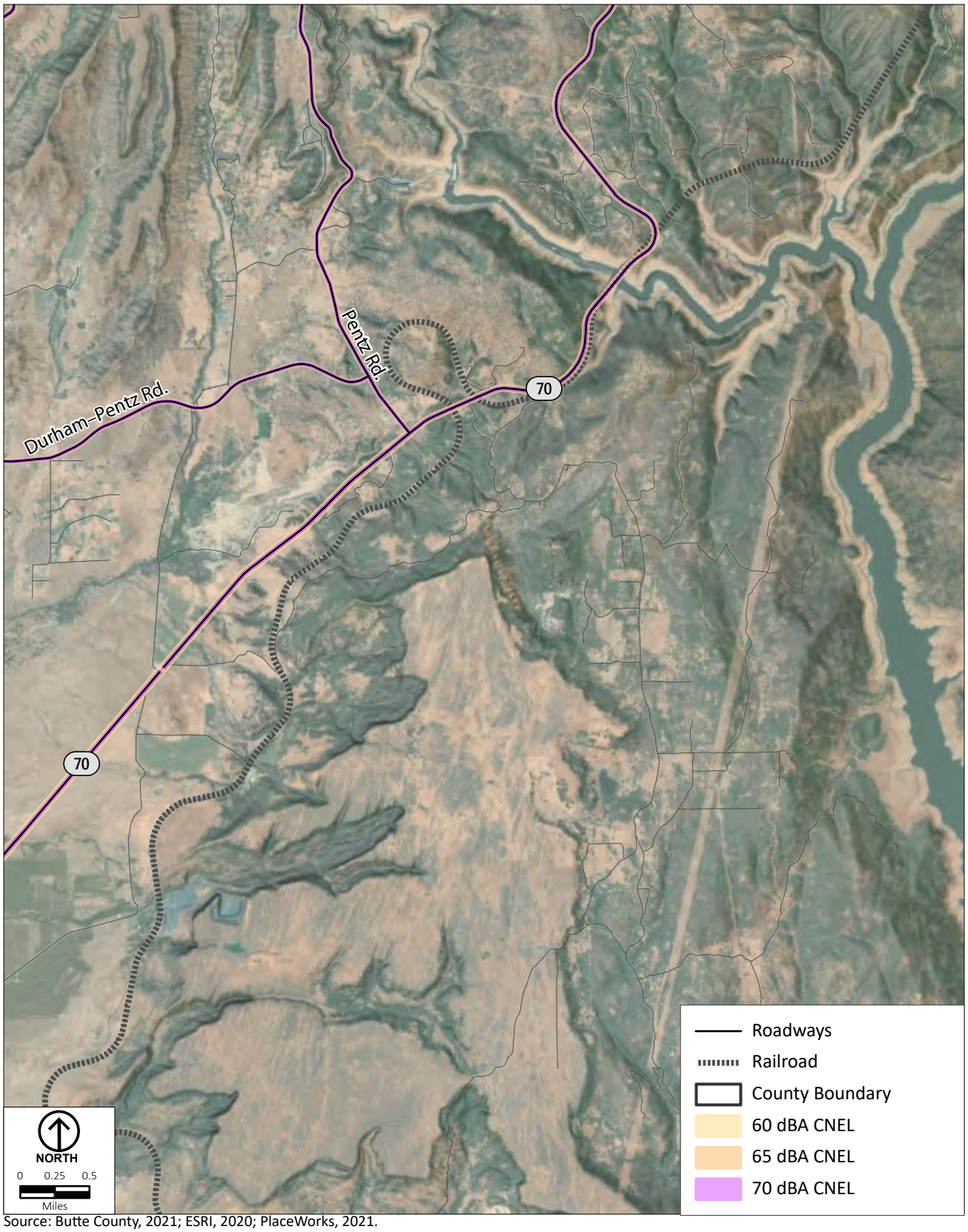
FIGURE 5.13-39
FUTURE TRAFFIC NOISE CONTOURS (MAP 10)



Source: Butte County, 2021; ESRI, 2020; PlaceWorks, 2021.

FIGURE 5.13-40

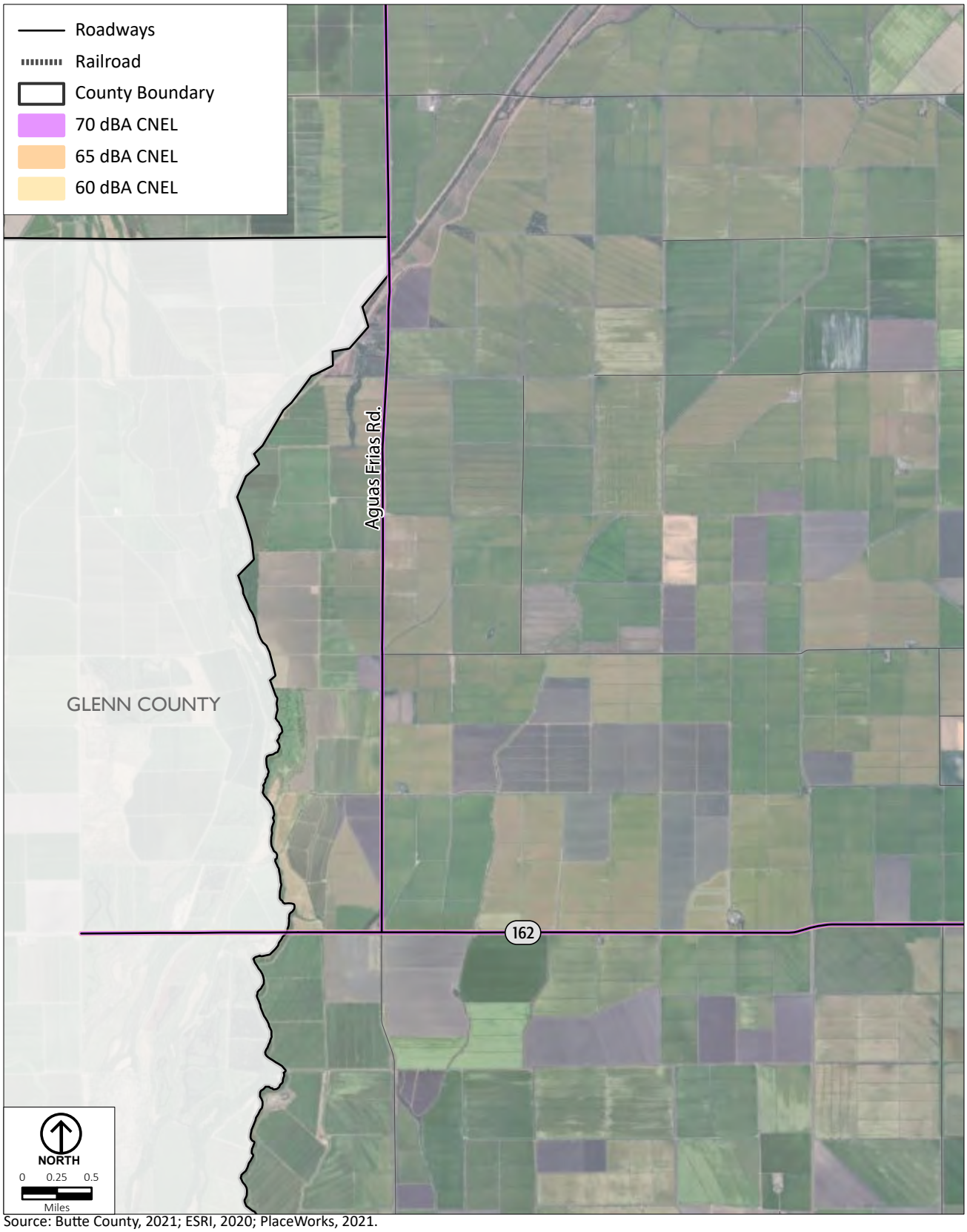
FUTURE TRAFFIC NOISE CONTOURS (MAP 11)



Source: Butte County, 2021; ESRI, 2020; PlaceWorks, 2021.

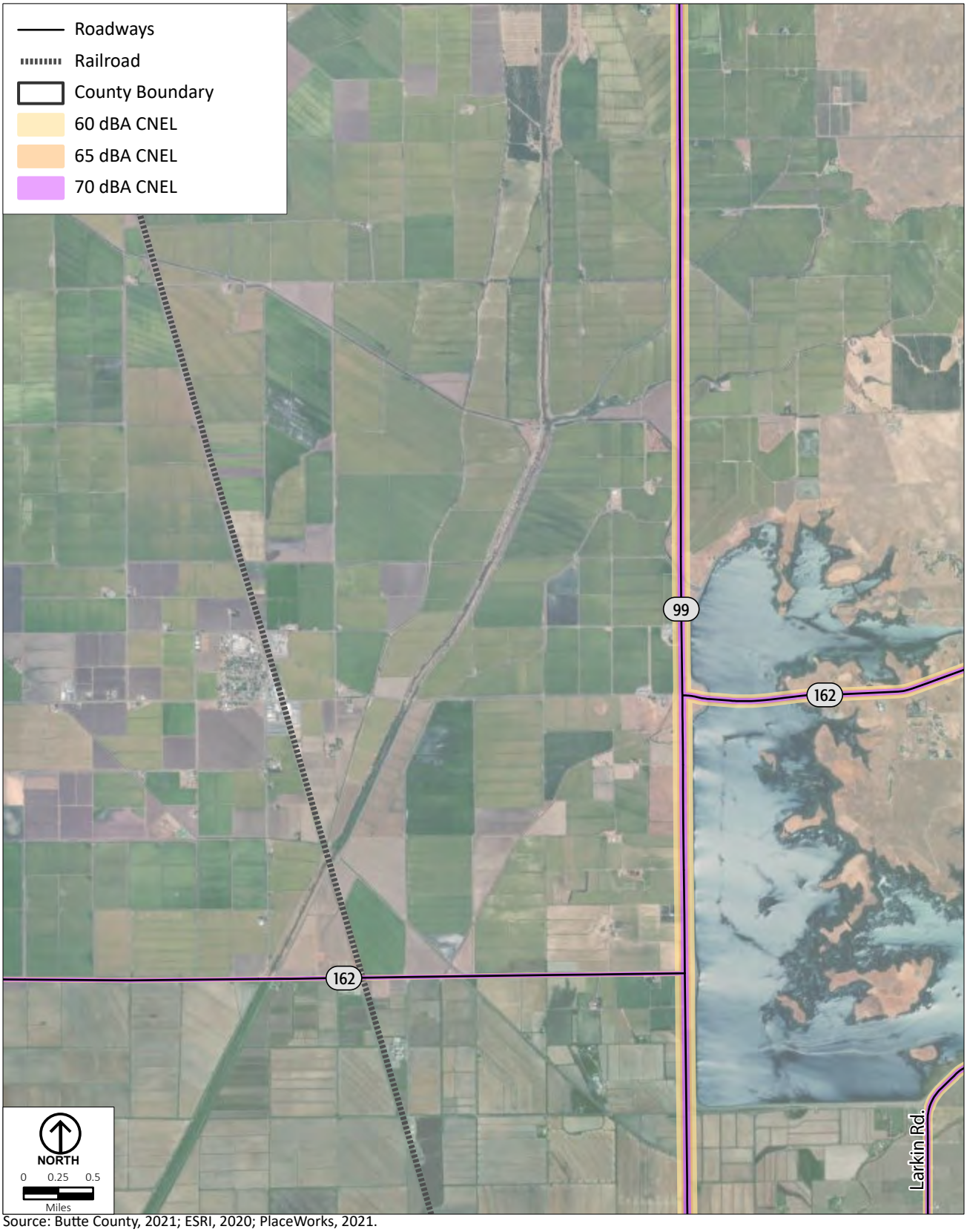
FIGURE 5.13-41

FUTURE TRAFFIC NOISE CONTOURS (MAP 12)



Source: Butte County, 2021; ESRI, 2020; PlaceWorks, 2021.

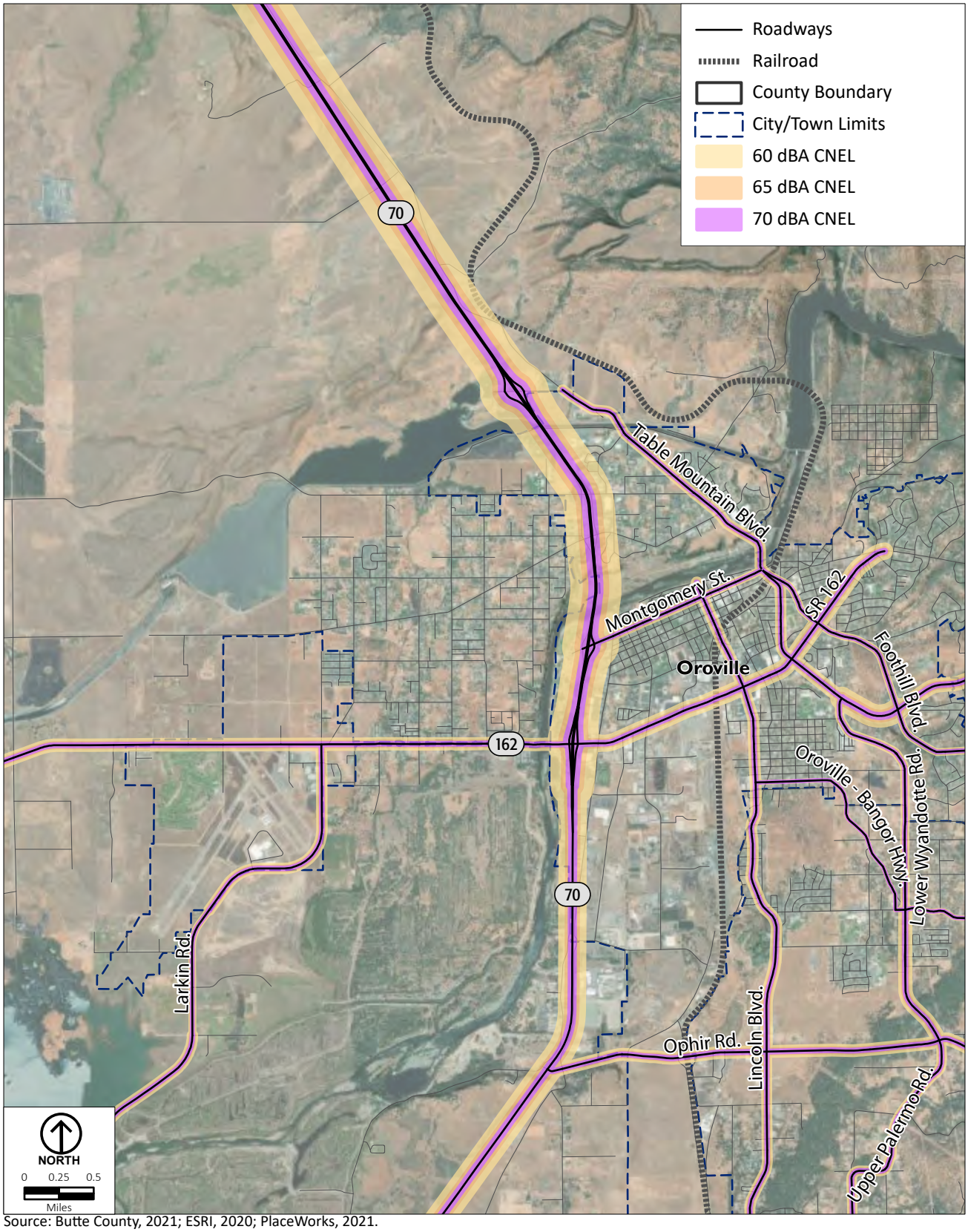
FIGURE 5.13-42
FUTURE TRAFFIC NOISE CONTOURS (MAP 13)



Source: Butte County, 2021; ESRI, 2020; PlaceWorks, 2021.

FIGURE 5.13-43

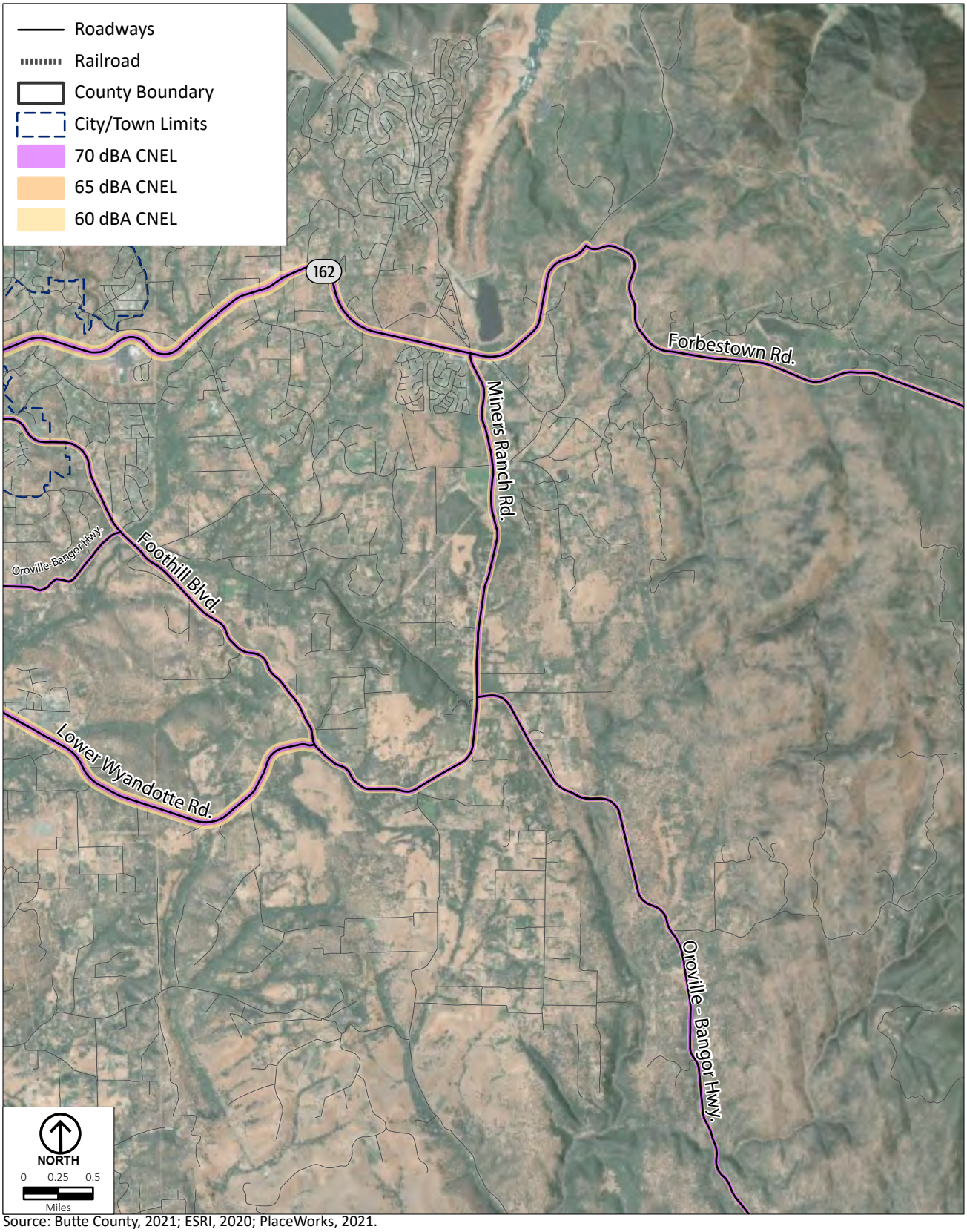
FUTURE TRAFFIC NOISE CONTOURS (MAP 14)



Source: Butte County, 2021; ESRI, 2020; PlaceWorks, 2021.

FIGURE 5.13-44

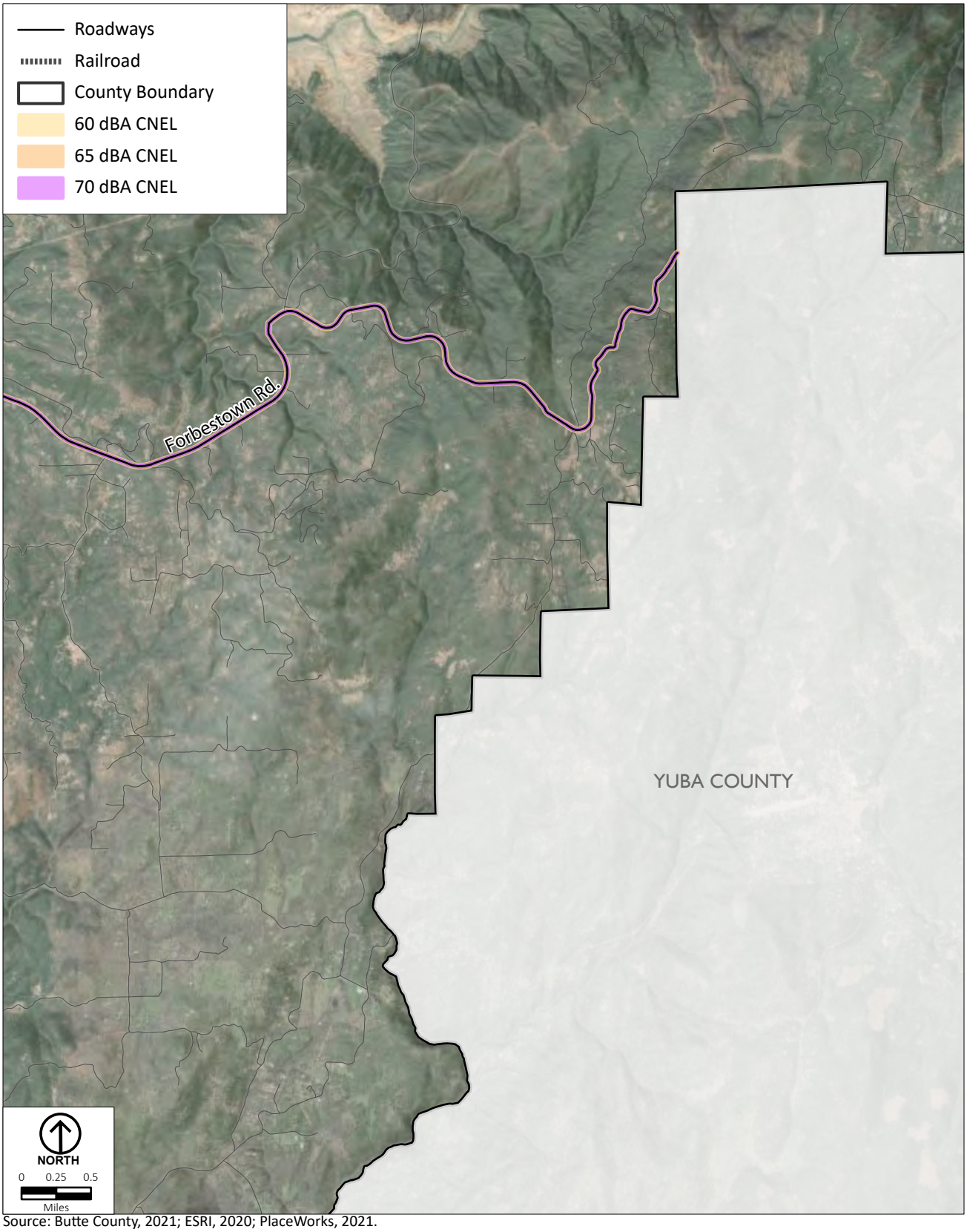
FUTURE TRAFFIC NOISE CONTOURS (MAP 15)



Source: Butte County, 2021; ESRI, 2020; PlaceWorks, 2021.

FIGURE 5.13-45

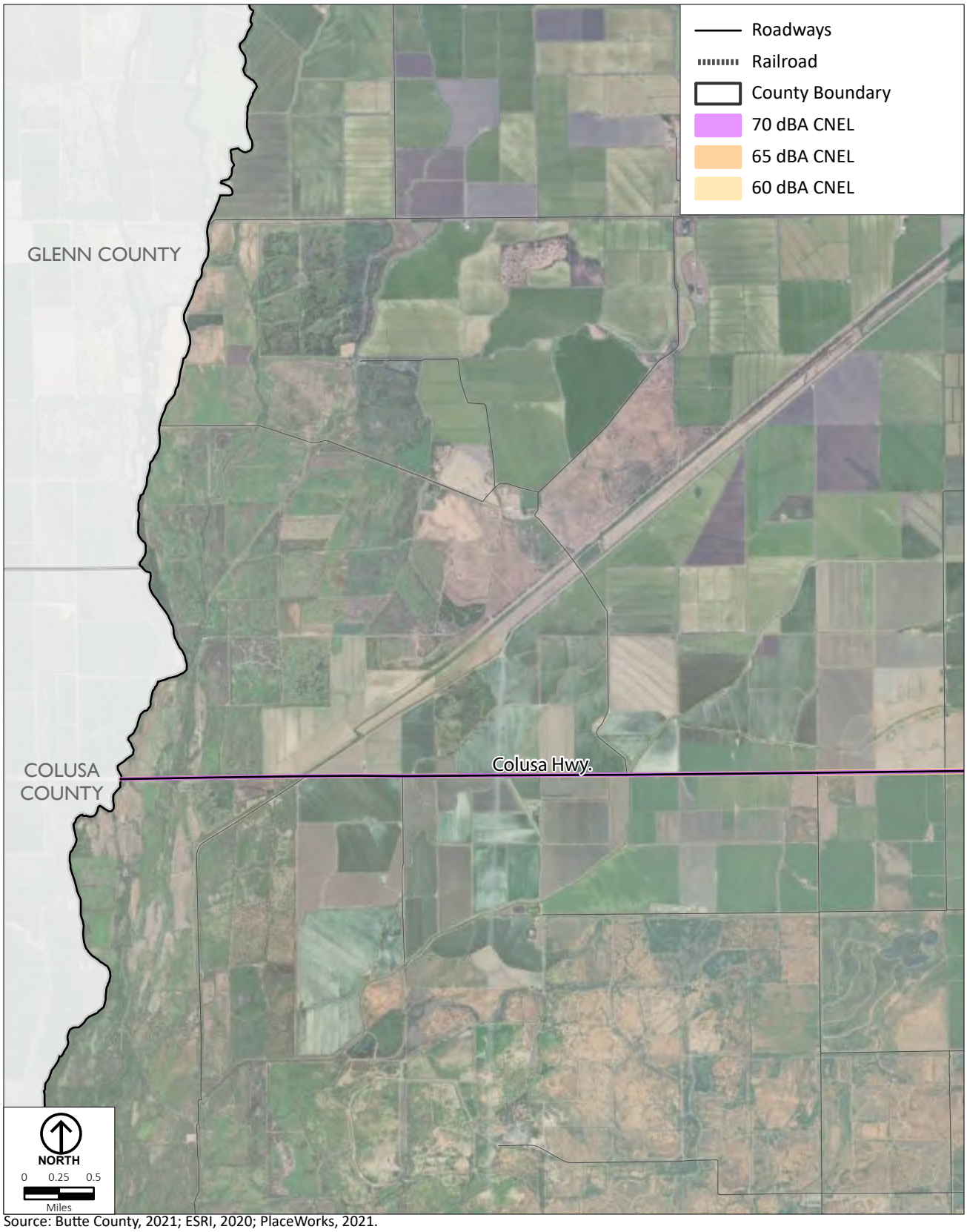
FUTURE TRAFFIC NOISE CONTOURS (MAP 16)



Source: Butte County, 2021; ESRI, 2020; PlaceWorks, 2021.

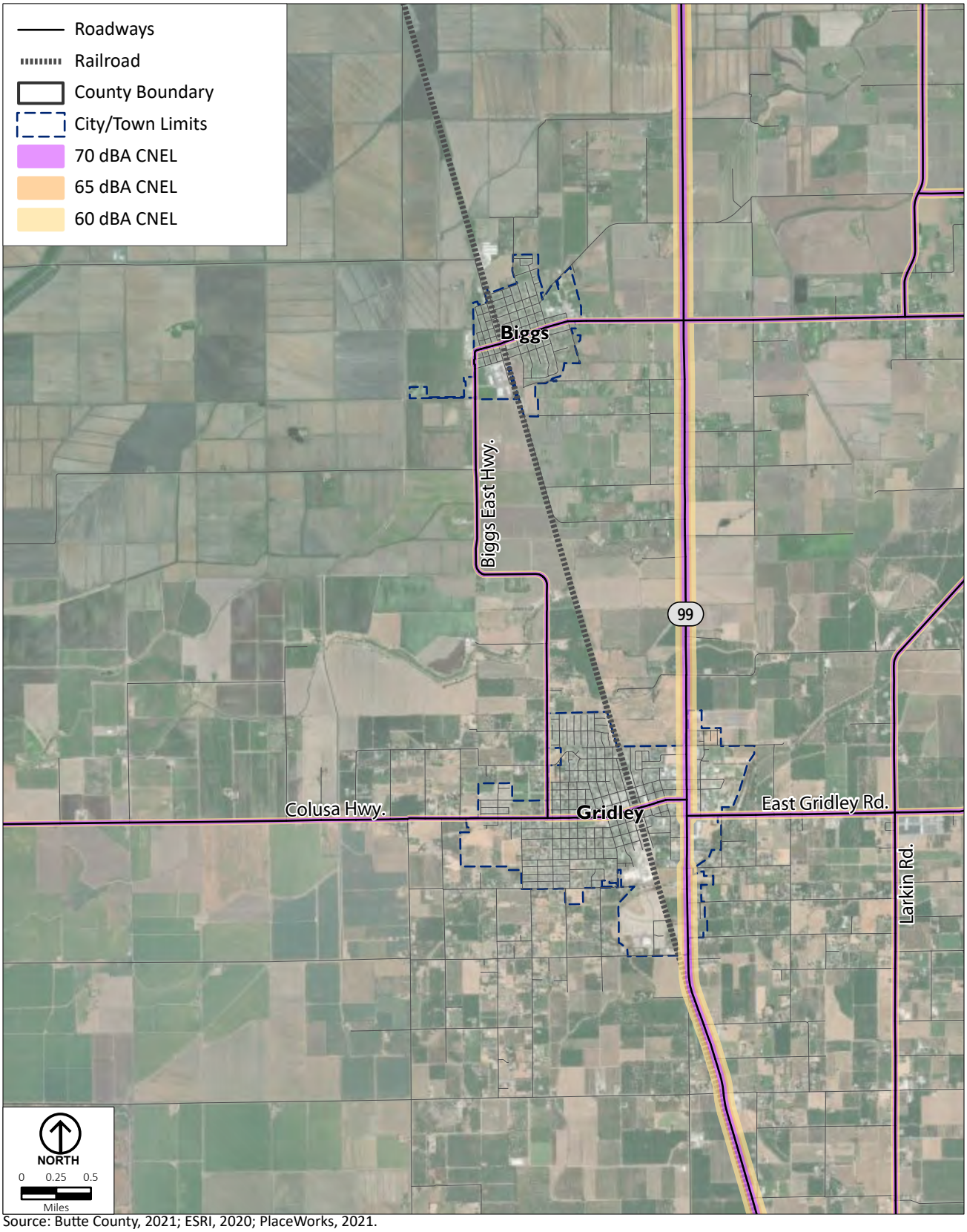
FIGURE 5.13-46

FUTURE TRAFFIC NOISE CONTOURS (MAP 17)



Source: Butte County, 2021; ESRI, 2020; PlaceWorks, 2021.

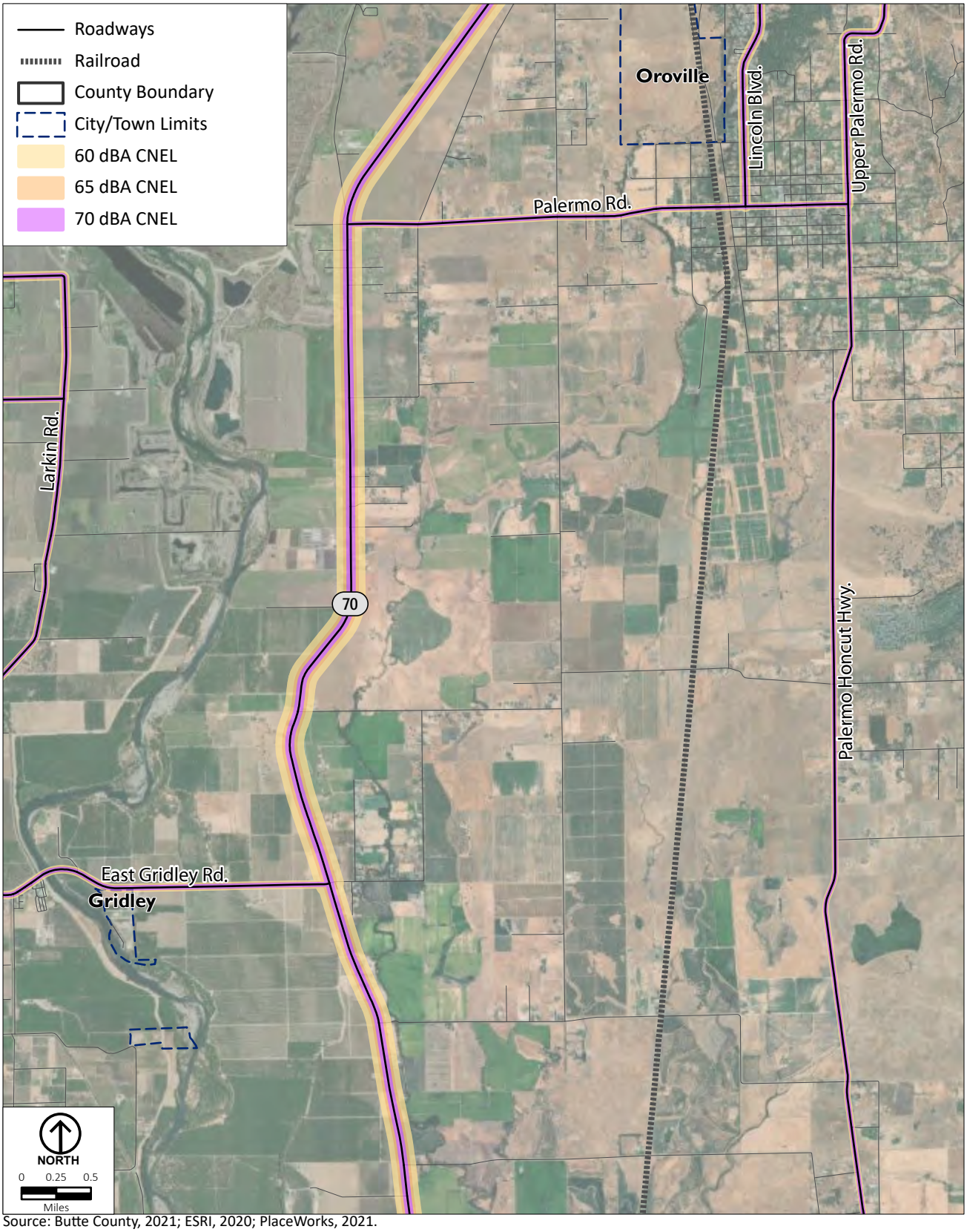
FIGURE 5.13-47
FUTURE TRAFFIC NOISE CONTOURS (MAP 18)



Source: Butte County, 2021; ESRI, 2020; PlaceWorks, 2021.

FIGURE 5.13-48

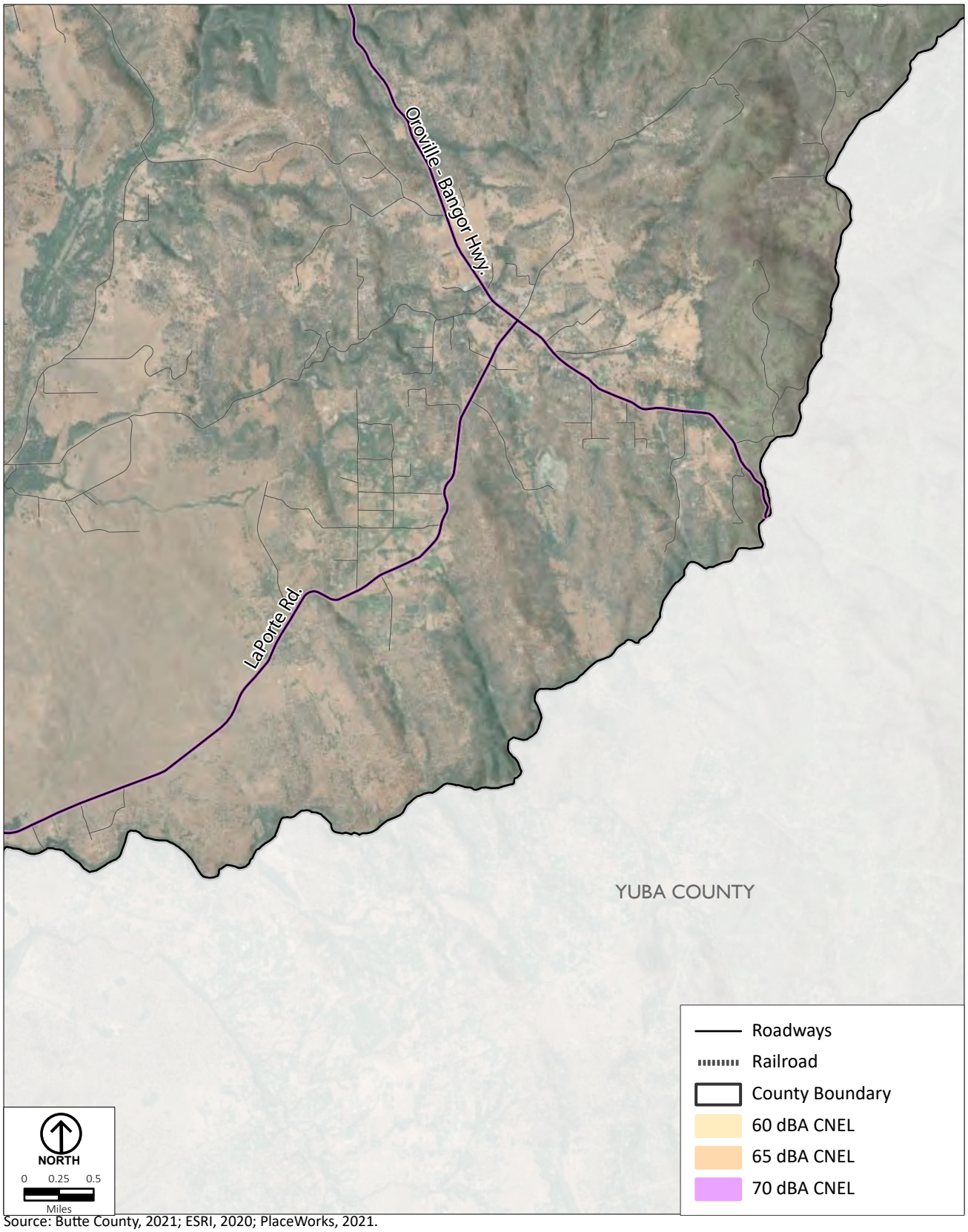
FUTURE TRAFFIC NOISE CONTOURS (MAP 19)



Source: Butte County, 2021; ESRI, 2020; PlaceWorks, 2021.

FIGURE 5.13-49

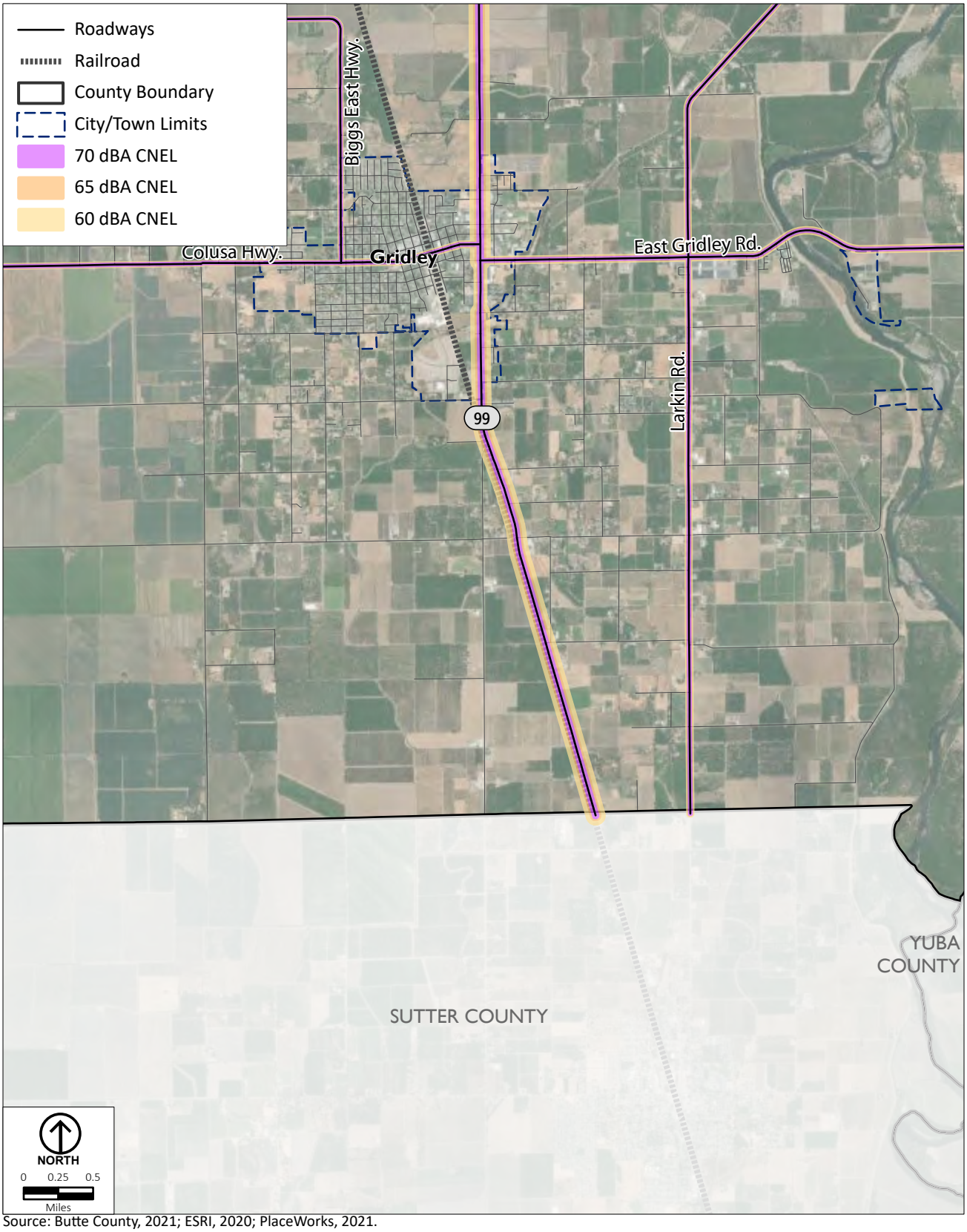
FUTURE TRAFFIC NOISE CONTOURS (MAP 20)



Source: Butte County, 2021; ESRI, 2020; PlaceWorks, 2021.

FIGURE 5.13-50

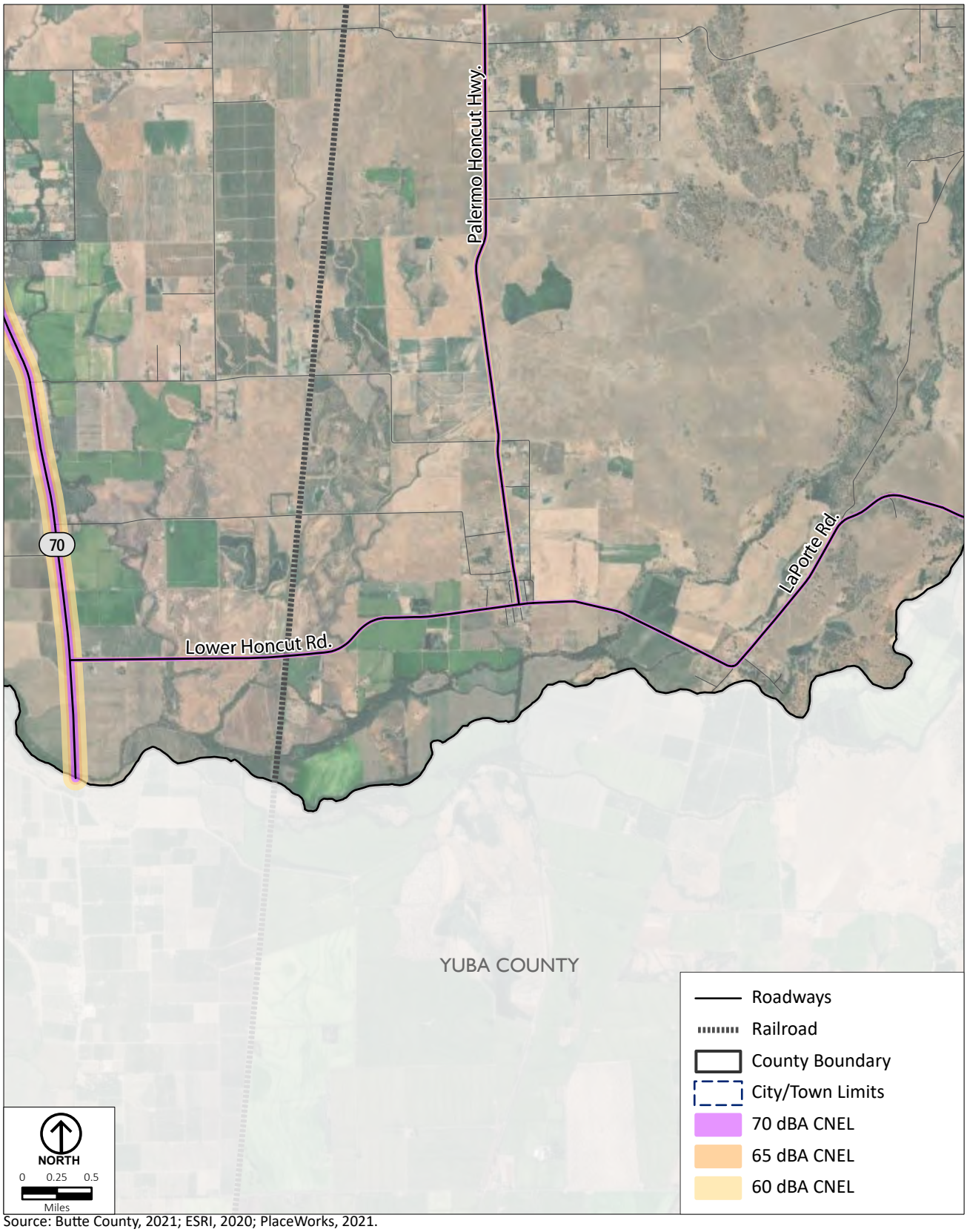
FUTURE TRAFFIC NOISE CONTOURS (MAP 21)



Source: Butte County, 2021; ESRI, 2020; PlaceWorks, 2021.

FIGURE 5.13-51

FUTURE TRAFFIC NOISE CONTOURS (MAP 22)



Source: Butte County, 2021; ESRI, 2020; PlaceWorks, 2021.

FIGURE 5.13-52

FUTURE TRAFFIC NOISE CONTOURS (MAP 23)

Upper Ridge Community Plan

As shown in Table 5.13-7, significant traffic noise increases are estimated along several of the study roadway segments from implementation of the General Plan 2040. However, there are no segments in the Upper Ridge Community Plan Area that are projected to experience a noticeable increase in traffic noise levels. Nonetheless, Noise Element Policies HS-P1.2 and HS-P1.3 would help minimize and mitigate potential traffic noise impacts. Traffic noise impacts in the Upper Ridge Community Plan Area would be less than significant.

In addition, future noise-sensitive land uses could be in areas that exceed the "Normally Acceptable" noise standards due to airport operations (see Figures 5.13-25 through 5.13-28 for airport noise contours) and due to railroad activity. Table 5.13-8 contains the calculated distances to the 65 dBA CNEL contours from future railroad noise. The same methodology that was used to estimate existing railroad noise contours was used for future railroad activity. Though it is not certain that implementation of the General Plan 2040 would cause a direct increase in rail activity, future sensitive land use development could be placed within distances to rail that could expose receptors to noise levels that exceed the applicable noise standard for that land use type. General Plan Policies HS-P1.1, HS-P1.2, HS-P1.3, HS-P1.6, and HS-P1.10 would help minimize noise impacts. However, impacts would still be potentially significant.

TABLE 5.13-8 FUTURE RAILROAD NOISE LEVEL SCREENING DISTANCES

Train	Subdivision	Distance (feet) to 65 dBA CNEL Contour (Mainline)	Distance (feet) to 65 dBA CNEL Contour (Within ¼ Mile of Grade Crossing)
UPRR	Valley Subdivision	350	527
UPRR	Sacramento and Canyon Subdivision – Feather River Route	300	470

Level of Significance Before Mitigation: NOI-1 would be potentially significant.

Impact NOISE-1b: Implementation of General Plan 2040 would contribute to conditions that exceed the established standards and that cause a substantial permanent increase in ambient noise levels, causing a significant cumulative noise impact.

Mitigation Measures Considered for Traffic Noise Impacts

In compliance with CEQA, "each public agency shall mitigate or avoid the significant effects on the environment of project it carries out or approves whenever it is feasible to do so" (Public Resources Code Section 21002.1(b)). The term "feasible" is defined in CEQA to mean "capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, social, and technological factors" (Public Resources Code Section 21061.1). A number of measures were considered for mitigating or avoiding traffic noise impacts (Impact NOISE-1b).

Special Roadway Paving

Notable reductions in tire noise have been achieved via the implementation of special paving materials, such as rubberized asphalt or open-grade asphalt concrete overlays. For example, Caltrans conducted a study of pavement noise along Interstate 80 in Davis (Caltrans 2011) and found an average improvement of 6 to 7 dBA compared to conventional asphalt overlay (Caltrans 2011).

Although this amount of noise reduction from rubberized/special asphalt materials would be sufficient to avoid the predicted noise increase due to traffic in some cases, the potential up-front and ongoing maintenance costs are such that the cost versus benefits ratio[2] may not be feasible and reasonable and would not mitigate noise to a level of less than significant in all cases. In addition, the study found that noise levels increased over time due to pavement raveling, and the chance of noise-level increases was higher after a 10-year period.

Sound Barrier Walls

Some (if not most) residences in the plan area have direct access (via driveways) to the associated impacted roadways. Therefore, barrier walls would prevent access to individual properties and would be infeasible. Further, these impacted homes are on private property outside of the control of future project developers, so there may be limited admittance onto these properties to construct such walls. Lastly, the costs versus benefits ratio in relation to the number of benefited households may not be feasible and reasonable in all cases.

Sound Insulation of Existing Residences and Sensitive Receptors

Exterior-to-interior noise reductions depend on the materials used, the design of the homes, and their conditions. To determine what upgrades would be needed, a noise study would be required for each house to measure exterior-to-interior noise reduction. Sound insulation may require upgraded windows, upgraded doors, and a means of mechanical ventilation to allow for a "windows closed" condition. There are no funding mechanisms and procedures that would guarantee that the implementation of sound insulation features at each affected home would offset the increase in traffic noise to interior areas and ensure that the state's 45 dBA CNEL standard for multifamily residences would be achieved.

Level of Significance After Mitigation: NOI-1 would be significant and unavoidable. There are no feasible or practical mitigation measures available to reduce project-generated traffic noise to less-than-significant levels for existing residences along the affected roadway. No individual measure and no set of feasible or practical mitigation measures are available to reduce project-generated traffic noise to less-than-significant levels in all cases. Thus, traffic noise would remain a significant and unavoidable impact in the plan area. It should be noted that the identification of this program-level impact does not preclude the finding of less-than-significant impacts for subsequent projects analyzed at the project level.

[2] Cost versus benefit considerations are in terms of the number of households benefited, per the general methodology employed by Caltrans in the evaluation of highway sound walls.

NOI-2	Implementation of the General Plan 2040 would potentially expose future receptors to excessive groundborne vibration or groundborne noise levels.

General Plan 2040 and Upper Ridge Community Plan

Construction Vibration Impacts

Construction activity at projects within the plan area would generate varying degrees of ground vibration, depending on the construction procedures and equipment. Operation of construction equipment generates vibrations that spread through the ground and diminish with distance from the source. The effect on buildings in the vicinity of the construction site varies depending on soil type, ground strata, and receptor-building construction. The results from vibration can range from no perceptible effects at the lowest vibration levels, to low rumbling sounds and perceptible vibrations at moderate levels, to slight structural damage at the highest levels. Vibration from construction activities rarely reaches levels that can damage structures, but can achieve the audible and perceptible ranges in buildings close to the construction site. Table 5.13-9, *Vibration Levels for Construction Equipment*, lists typical vibration levels for construction equipment in terms of peak particle velocity (PPV), which is the peak rate of speed at which soil particles move due to ground vibration. PPV is measured in inches per second (in/sec).

TABLE 5.13-9 VIBRATION LEVELS FOR CONSTRUCTION EQUIPMENT

Equipment	Approximate PPV Vibration Level at 25 Feet (inches per second)
Pile Driver, Impact (Upper Range)	1.518
Pile Driver, Impact (Typical)	0.644
Pile Driver, Sonic (Upper Range)	0.734
Pile Driver, Sonic (Typical)	0.170
Vibratory Roller	0.210
Large Bulldozer	0.089
Caisson Drilling	0.089
Loaded Trucks	0.076
Jackhammer	0.035
Small Bulldozer	0.003

Source: FTA 2018.
Notes: Peak Particle Velocity (PPV) is the peak rate of speed at which soil particles move (e.g., inches per second or in/sec) due to ground vibration.

As shown in Table 5.13-9, vibration generated by construction equipment has the potential to be substantial, since it has the potential to exceed the FTA criteria for architectural damage (e.g., 0.12 inches per second [in/sec] PPV for fragile or historical resources, 0.2 in/sec PPV for nonengineered timber and masonry buildings, and 0.3 in/sec PPV for engineered concrete and masonry). Construction details and equipment for future project-level developments are not known at this time but may cause vibration impacts. This would be a potentially significant impact.

Level of Significance Before Mitigation: NOI-2 would be potentially significant.

Impact NOI-2a: The potential for sensitive receptors within the plan area to be exposed to excessive vibration levels from project level construction activities are considered potentially significant.

Mitigation Measures

Mitigation Measure NOI-2: Prior to issuance of a building permit for a project requiring pile driving during construction within 135 feet of fragile structures, such as historical resources; within 100 feet of nonengineered timber and masonry buildings (e.g., most residential buildings); within 75 feet of engineered concrete and masonry (no plaster); or a vibratory roller within 25 feet of any structure, the project applicant shall prepare a noise and vibration analysis to assess and mitigate potential noise and vibration impacts related to these activities. This noise and vibration analysis shall be conducted by a qualified and experienced acoustical consultant or engineer. The vibration levels shall not exceed FTA architectural damage thresholds (e.g., 0.12 in/sec PPV for fragile or historical resources, 0.2 in/sec PPV for nonengineered timber and masonry buildings, and 0.3 in/sec PPV for engineered concrete and masonry). If vibration levels would exceed this threshold, alternative uses shall be used—such as drilling piles instead of pile driving, and static rollers instead of vibratory rollers. If necessary, construction vibration monitoring shall be conducted to ensure vibration thresholds are not exceeded.

Level of Significance After Mitigation: NOI-2 would be less than significant. With implementation of Mitigation Measures NOISE-2, Impact NOISE-2a would be reduced to less-than-significant levels. Specifically, Mitigation Measure NOISE-2 would reduce potential vibration impacts during construction below the pertinent thresholds. No significant and unavoidable vibration impacts would remain.

Operational Vibration Impacts

Commercial and industrial operations within the plan area would generate varying degrees of ground vibration, depending on the operational procedures and equipment. Such equipment-generated vibrations would spread through the ground and diminish with distance from the source. The effect on buildings in the vicinity of the vibration source varies depending on soil type, ground strata, and receptor-building construction. The results from vibration can range from no perceptible effects at the lowest vibration levels, to low rumbling sounds and perceptible vibrations at moderate levels, to slight structural damage at the highest levels. In addition, future sensitive receptors could be placed within close proximity to existing railroad lines through buildout in the plan area.

Because specific project-level information is not available at this time, it is not possible to quantify future vibration levels at vibration-sensitive receptors that may be near existing and future vibration sources. General Plan Policy HS-P1.10 would help minimize impacts. However, with the potential that sensitive uses in the plan area would be exposed to annoying and/or interfering levels of vibration from commercial or industrial operations and existing railroad lines, operations-related vibration impacts would still be considered potentially significant.

Level of Significance Before Mitigation: NOI-2 would be potentially significant.

Impact NOISE-2b: The potential for sensitive receptors within the plan area to be exposed to annoying and/or interfering levels of vibration from commercial or industrial operations and existing railroad lines would result in potentially significant operational-related vibration impacts.

Mitigation Measures

Mitigation Measure NOI-3: During the project-level California Environmental Quality Act (CEQA) process for industrial developments under the General Plan Update or other projects that could generate substantial vibration levels near sensitive uses, a noise and vibration analysis shall be conducted to assess and mitigate potential noise and vibration impacts related to the operations of that individual development. This noise and vibration analysis shall be conducted by a qualified and experienced acoustical consultant or engineer and shall follow the latest CEQA guidelines, practices, and precedents.

New residential projects (or other noise-sensitive uses) within 200 feet of existing railroad lines shall be required to conduct a groundborne vibration and noise evaluation consistent with Federal Transit Administration (FTA)–approved methodologies.

Level of Significance After Mitigation: With implementation of Mitigation Measure NOISE-3, coupled with adherence to associated performance standards and General Plan Policy HS-P1.10, Impact NOISE-2b would be reduced to less-than-significant levels. Specifically, Mitigation Measure Noise 3 would reduce potential vibration impacts from commercial/industrial uses and proposed uses near existing railroads and facilities to less-than-significant levels. No significant and unavoidable vibration impacts would remain.

NOI-3	Implementation of the General Plan 2040 would not expose people residing or working within two miles of a private airstrip or airport to excessive noise levels.

General Plan 2040

As discussed previously, there are four public airports in Butte County whose noise contours are shown in Figures 5.13-25 through 5.13-28. Future housing development or redevelopment uses could be located in areas that exceed the 60 dBA CNEL/L_{dn}. The following General Plan Policies would minimize potential adverse noise-related impacts from the airport.

- HS-P1.3: New noise-sensitive land uses shall not be within the 55 L_{dn} contour of airports, roadways, and other noise-generating uses, with the exception of the Chico Municipal Airport.
- HS-P1.4: New noise-sensitive land uses shall not be within the 60 Ldn contour of the Chico Municipal Airport.

Because the implementation of the General Plan 2040 would not cause a direct increase in flights, and all future sensitive receptors would be within the 55 and 60 dBA CNEL/Ldn noise contours, impacts from future potential projects in the plan area would be less than significant.

Upper Ridge Community Plan

As discussed in Chapter 3, *Project Description*, of this Draft EIR, the Upper Ridge Community Plan would increase development potential in the Upper Ridge community with 28 parcels redesignated from Retail and Office to Mixed-Use land uses in the Old Magalia and Magalia Center neighborhoods. Potential future development under the Upper Ridge Community Plan would consist of new development in the Magalia Center and the Old Magalia neighborhoods. Implementation of the Upper Ridge Community Plan would result in growth in population and the development of new residential and nonresidential projects in the city.

The Upper Ridge Community Plan Area is not located within the noise contours of the Chico Municipal Airport and therefore would not be exposed to excessive levels of noise from the airport. Impacts would be less than significant.

Level of Significance Before Mitigation: Less than significant.

Mitigation Measures

No mitigation measures are required.

4.13.2 CUMULATIVE IMPACTS

NOI-4	Buildout of the General Plan 2040, in combination with past, present, and reasonably foreseeable projects, would result in potentially significant cumulative impacts with respect to noise.

The analysis of the proposed project, discussed above, addresses cumulative impacts with regard to noise, groundborne noise, and vibration. Similarly, the noise contours and traffic-related noise levels developed for the proposed project include and account for regional travel patterns as they affect traffic levels in Butte County. Noise contours were based on both existing and projected future traffic volumes that incorporate cumulative regional effects and trends. Cumulative development conditions would result in increased cumulative roadways noise levels. Consequently, the proposed project's contribution would be cumulatively considerable.

Level of Significance Before Mitigation: NOI-4 would be potentially significant.

Impact NOI-4: Implementation of General Plan 2040 would contribute to conditions that exceed County noise standards and that cause a substantial permanent increase in ambient noise levels, causing a significant cumulative noise impact.

General Plan 2040 would contribute to cumulative traffic noise conditions that exceed established noise standards. Since this traffic is an unavoidable outcome of the General Plan buildout, this impact is considered cumulatively significant and unavoidable.

Mitigation Measures

There are no feasible mitigation measures.

Level of Significance After Mitigation: NOI-4 would be significant and unavoidable.

5.13.4 REFERENCES

Butte County Airport Land Use Commission. 2017, November 15. Butte County Airport Land Use Compatibility Plan. November 15, 2017. Accessed August 10, 2022. http://www.buttecounty.net/dds/meetings/aluc.

California Department of Transportation (Caltrans). 2011. I-80 Davis OGAC Pavement Noise Study.

———. 2013a. Technical Noise Supplement ("TeNS").

———. 2013b. *Transportation and Construction Vibration Guidance Manual*.

Caltrans, Division of Environmental Analysis. 2020. *Traffic Noise Analysis Protocol*.

Federal Transit Administration (FTA). 2018, September. *Transit Noise and Vibration Impact Assessment*.

5.14 POPULATION AND HOUSING

This chapter describes the regulatory framework and existing conditions in the Plan Area related to population and housing, and the potential impacts of the project on population and housing.

5.14.1 ENVIRONMENTAL SETTING

5.14.1.1 REGULATORY FRAMEWORK

This section summarizes key State and County regulations and policies pertaining to population and housing in Butte County.

State Regulations

Regional Housing Needs Allocation

The California Department of Housing and Community Development (HCD) identifies the supply of housing necessary to meet the existing and projected growth in population and households in the State and passes a portion along to each of the State's 38 Councils of Governments (COG). As the local COG, the Butte County Association of Governments (BCAG) receives a Regional Housing Needs Allocation (RHNA) that specifies the number of units, by affordability level, that the County and other jurisdictions within the planning area must plan to accommodate during its Housing Element planning period.

Butte County's fair share of housing has been decreasing over time as growth has shifted toward incorporated cities. The RHNA requirements for the unincorporated area of the county for the 2021 to 2030 planning period, including both initial distribution and replacement housing to rebuild those lost in the 2018 Camp Fire, is 3,788 units (BCAG 2020).

Local Regulations

Butte County General Plan 2030

The following policies are included in the existing General Plan regarding population and housing. The numbering is from the existing General Plan and therefore may not be consecutive.

Land Use Element

- LU-P2.1: The County shall allow reasonable "freedom of choice" of sites and facilities for the population growth of the county, both in the county as a whole and targeted to specific areas.
- LU-P4.1: The integrity and stability of existing residential neighborhoods shall be promoted and preserved.
- LU-P4.2: Residentially-designated land with High Density Residential and Very High Density Residential land use designations shall be developed at or above the minimum density range.

- **LU-P4.3:** Generally, higher density housing shall be located along collector and arterial streets and within easy walking distance of public facilities.
- **LU-P11.2:** In conjunction with annexation agreements involving residential development, seek to transfer the applicable portion of the County's Regional Housing Needs Allocation (RHNA) to the annexing jurisdiction.
- **LU-P12.7:** The County will work cooperatively with municipalities to establish urban growth boundaries in conjunction with appropriate revenue sharing agreements for annexations.

Housing Element

- Goal H-1: Provide for the County's regional share of new housing for all income groups and future residents as identified in the Housing Needs Assessment.
    - H-P1.1 Evaluate the impact on the County's regional share of housing when considering General Plan Amendments.
    - H-P1.2 Focus development in the unincorporated areas of the spheres of influence of the cities to accommodate the County's housing allocation.
    - H-P1.3 Work to transfer portions of the County's Regional Housing Needs Allocations to cities in conjunction with annexations and when cities are more able to provide urban services needed by housing.
    - H-P1.4 Promote infill development on appropriate sites in existing neighborhoods and reuse underutilized parcels throughout the Unincorporated Area.
    - H-P1.5 Ensure that local land use policies updated as part of Butte County General Plan 2030, and any corresponding changes in zoning, are consistent with accommodating the County's regional share of housing for all income groups.
- Goal H-2: Encourage the provision of affordable housing in the Unincorporated Area.
    - H-P2.1 Support the development of affordable housing in locations with adequate services and transportation accessibility.
    - H-P2.2 Work with other public agencies, developers, the incorporated municipalities, and nonprofit housing corporations to make use of state and federal programs for lower- and moderate-income housing, with priority for projects that will include units affordable to extremely low-income households and/or provide affordable studio or one-bedroom units.
    - H-P2.3 Consistent with state law, provide density bonuses to homebuilders proposing to include a minimum specified percentage of lower- and moderate-income dwelling units within residential developments.
    - H-P2.4 Ensure that developers and county residents are made aware of key housing programs and development opportunities, and offer County assistance as deemed appropriate for affordable projects.
    - H-P2.5 Work with employers and housing partners to encourage the production of housing units on either employer-owned sites or other areas adjacent to their job sites.

- H-P2.6 Allow secondary dwellings in addition to a primary residence on a parcel to provide additional housing opportunities.
- H-P2.7 Provide technical assistance to agencies and organizations that are involved in the development and construction of housing and/or provide support services.
- H-P2.8 Encourage self-help housing as an appropriate means of providing affordable ownership housing.

- Goal H-3: Partner with property owners to preserve and rehabilitate the existing supply of housing.
  - H-P3.1 Inspect residential buildings and identify code violations.
  - H-P3.2 Continue to apply, when feasible, for state and federal assistance for housing rehabilitation for low-income households. Require that rental housing that is repaired with government assistance remain affordable to low-income households for a specified period of time.
  - H-P3.3 Require the abatement or demolition of substandard housing that is not economically feasible to repair.
  - H-P3.4 Seek the private rehabilitation of substandard dwelling units (as identified through code enforcement) and provide financial assistance, when available, to owners of dwelling units occupied by low-income households. In applying this policy, the County shall seek to avoid the displacement of low-income households.
- Goal H-4: Collaborate with existing service providers to meet the special housing needs of homeless persons, elderly, large families, disabled persons, and farmworkers.
  - H-P4.1 Provide referrals for housing and services to homeless persons.
  - H-P4.2 Partner with service providers to accommodate the needs of the homeless population in the Unincorporated Area.
  - H-P4.3 Encourage transitional housing as a bridge between homeless facilities and independent living.
  - H-P4.4 Continue to facilitate efforts of individuals, private organizations, and public agencies to provide safe and adequate housing for farmworkers.
  - H-P4.5 Support appropriate amounts of farmworker and farm family housing in agriculturally zoned areas where it promotes efficiency in the farming operation and has a minimal impact on productive farmland.
  - H-P4.6 Promote increased housing opportunities for the elderly, large families, young adults exiting the foster care system, and disabled persons.
  - H-P4.7 Encourage alternative living arrangements for seniors, including market-rate retirement communities and affordable rental housing.
  - H-P4.8 Encourage developers of rental units to build units for large families, and studio and one-bedroom units to facilitate independent living for persons with mental illness.

- H-P4.9 Provide reasonable accommodation for individuals with disabilities to ensure equal access to housing.

- Goal H-5: Ensure equal housing opportunity.
  - H-P5.1 Continue to promote housing opportunities for all persons regardless of age, race, religion, gender, marital status, national origin, disability, or other barriers that prevent choice in housing.
  - H-P5.2 Continue to work with other public and local private organizations to provide referral services to individuals with housing discrimination complaints and to remedy instances of housing discrimination.

Economic Development Element

- Goal ED-1 Improve the local economy by diversifying the economy, reducing the unemployment rate, increasing business revenues to the County, and increasing wages.
  - ED-P1.1 The County's priority for future growth is creating sustainable jobs and providing a living wage to families to reduce poverty.
  - ED-P1.2 The County shall encourage a full range of commercial services at the regional, community and neighborhood levels.
  - ED-P1.4 Products and services for County operations should be purchased from Butte County locally-owned businesses whenever possible.
  - ED-P1.5 The County supports education and job training for those county residents currently employed, dislocated, or unemployed in order to enhance existing skill levels and provide for job advancement, and supports removal of impediments to gainful employment for county residents.
  - ED-A1.2 Create a countywide strategy to support the local manufacturing, office, and commercial sectors by improving infrastructure that supports manufacturing, office and commercial development, and promotes airport, highway, and rail development.
  - ED-A1.3 Work with the five incorporated municipalities and economic development entities to jointly develop and maintain a countywide inventory of available industrial and commercial land and buildings.
  - ED-A1.4 Establish a program for regional coordination of economic development to: focus on jobs creation and expansion; establish written agreements with local jurisdictions, economic development corporations and chambers of commerce; and maintain organizational ties to the Board of Supervisors.

- Goal ED-3 Improve the County's fiscal health.
  - ED-P3.3 Major mixed use development projects shall develop non-residential uses concurrent with housing so that revenue- and job-generating uses do not appreciably lag residential development. Each phase of housing shall be accompanied by balanced revenue- and job-generating development.

Agriculture Element

- Goal AG-1 Protect, maintain, promote and enhance Butte County's agriculture uses and resources, a major source of food, employment and income in Butte County.
    - AG-P1.1 The County supports State and federal legislation designed to conserve soil and protect agricultural land.
    - AG-P1.2 The County supports agricultural education and research at Butte County educational institutions.
    - AG-P1.3 Continue to work with landowners in establishing new and maintaining existing Williamson Act contracts.
- Goal AG-3 Promote innovative and economically viable agriculture.
    - AG-P3.1 The County shall use the existing local working group process to cooperate with the Natural Resource Conservation Service to provide support to farmers regarding conserving water, planting drought-tolerant crops and protecting natural resources.
    - AG-P3.2 The County supports existing efforts, such as those by the U.C. Cooperative Extension, to educate and encourage farmers to use agricultural methods that reduce or minimize use of pesticides, herbicides and manufactured fertilizers.
- Goal AG-7 Support farmworker and farm family housing in agricultural areas.
    - AG-P7.1 Temporary housing for seasonal workers, including temporary sanitary and cooking facilities, shall be allowed during harvest season subject to applicable building and health codes.

Conservation and Open Space Element

- Goal COS-2 Promote green building, planning and business.
    - COS-P2.1 County staff shall work cooperatively with the municipalities to ensure consistent standards for green building codes and other methods to reduce greenhouse gas emissions throughout the county.
    - COS-P2.2 New development shall comply with Green Building Standards adopted by the California Building Standards Commission at the time of building permit application, including requirements about low- or no-toxicity building materials.
    - COS-P2.3 All new County buildings and major renovations designed for public access and/or primary workspace shall meet, at a minimum, LEED-Silver or equivalent and the County shall use these buildings to demonstrate green building practices to builders, developers, homeowners and others. Minor buildings of an accessory nature that are not used as public spaces and that do not serve as a primary work space are not required to meet LEED-Silver or equivalent, but shall implement practical building design, construction, and maintenance solutions as set forth under the LEED rating system or equivalent.

- COS-P2.4 All new subdivisions and developments should meet green planning standards such as LEED for Neighborhood Design.

Recreation and Open Space Element

- Goal COS-4 Conserve energy and fuel resources by increasing energy efficiency.
  - COS-P4.1 Energy efficiency efforts of local businesses shall be promoted and rewarded.
  - COS-P4.3 New development shall meet the guidelines of the California Energy Star New Homes Program, or equivalent, and demonstrate detailed energy conservation measures.
  - COS-P4.4 Site and structure designs for new development projects shall maximize energy efficiency.

Upper Ridge Community Plan

The following policies are included in the existing Upper Ridge Community Plan (URCP) regarding population and housing. The numbering is from the plan and therefore may not be consecutive.

Land Use and Development Strategies

- **Strategy LU-2.1:** Recommend that the General Plan supports the provision of multifamily housing on the Upper Ridge in appropriate locations.
- **Strategy LU-2.2:** Recommend that the General Plan support the development of a variety of multifamily housing types on the Upper Ridge that fit with the character of existing development, including, but not limited to, garden apartments, townhouses, duplexes and triplexes, cottage home developments, and accessory dwelling units.
- **Strategy LU-2.3:** Recommend that the General Plan support the use of Design Guidelines for new multifamily development on the Upper Ridge to ensure projects fit with the existing character of the area. These guidelines are found in Chapter 10, Multi-family Residential Design Guidelines of the Upper Ridge Community Plan, and do not pertain to single-family residences or commercial development.
- **Strategy LU-2.4:** Ensure multifamily housing that is fire-safe by adhering to fire-safe building codes and exploring the use of new fire-resistant materials.
- **Strategy LU-2.5:** Support new multi-family housing on the Upper Ridge at sites close to services and evacuation routes, that include commercially zoned properties along Lakeridge Circle and along Old Skyway in Old Magalia. Amend the General Plan to redesignate parcels as shown in Figures 3.3 and 3.4 from Retail and Office to Mixed-Use.
- **Strategy LU-2.6:** Amend the Zoning Ordinance to make it consistent with General Plan redesignation described in Strategy LU-2.5 to allow new multifamily housing on the Upper Ridge. Change zoning of parcels shown in Figures 3.3 and 3.4 from General Commercial to Mixed-Use.

- **Strategy LU-3.1:** Support federal and state funding of homeless programs to address the lack of housing and assist unhoused people in Butte County, including the "rural homeless" on the Upper Ridge.
- **Strategy LU-4.1:** Work across County departments and agencies to attract businesses that provide desired goods and services in the Lakeridge Circle area.
- **Strategy LU-4.2:** Ensure the potential for rebuilding of commercial properties and additional new establishments in the commercial area at the Lakeridge Circle area by supporting the work of the Paradise Ridge Chamber of Commerce and other business groups to coordinate redevelopment with businesses in the Town of Paradise.

5.14.1.2 EXISTING CONDITIONS

BCAG projected population and housing for the entire county and each of the cities within the county through 2045. Table 5.14-1 shows BCAG's population and housing projections through 2045 under post-Camp Fire conditions.

TABLE 5.14-1 BUTTE COUNTY POPULATION AND HOUSING PROJECTIONS, 2020 – 2045

	2020	2025	2030	2035	2040	2045
Population						
Incorporated	142,651	155,016	160,713	168,220	175,554	181,714
Unincorporated	67,640	75,040	80,621	83,046	86,466	91,237
Total County	**210,291**	**230,056**	**241,333**	**251,266**	**262,018**	**272,950**
Housing Units						
Incorporated	54,131	60,602	65,106	69,596	74,035	77,327
Unincorporated	31,991	33,756	35,643	37,669	39,890	41,537
Total County	**86,122**	**94,358**	**100,749**	**107,265**	**113,925**	**118,864**

Sources: BCAG 2021.

Population

According to the California Department of Finance (DOF), there were 210,291 people living in the county in 2020. Of this total, approximately 142,651 lived within the incorporated cities and the remaining 67,640 lived in the unincorporated areas. BCAG estimates that the unincorporated area will grow at a rapid rate of 11 percent from 2020 to 2025 in the more immediate aftermath and recovery from the Camp and North Complex Fires (BCAG 2021). Population growth in the unincorporated county is anticipated to slow slightly to 7 percent between 2025 and 2030 before it drops to 3 percent between 2030 and 2035 and 4 percent from 2035 to 2040 (BCAG 2021). Over the full 25-year period from 2020 to 2045, the unincorporated county population is projected to grow by approximately 23,600 people (BCAG 2021).

Housing

According to DOF, there were 86,122 housing units in the county in 2020. Of this total, approximately 54,131 were within the incorporated jurisdictions, and the remaining 31,991 were in the unincorporated county. BCAG estimates that the unincorporated area's housing stock will grow at an increased rate between 2020 and 2025, adding nearly 6,500 new housing units, as fire rebuilding efforts continue. In subsequent five-year intervals from 2025 through 2040, housing unit growth will be steady with approximately 4,500 new housing units every five years and will taper to approximately 3,300 units between 2040 and 2045 (BCAG 2021). At the General Plan horizon year, the unincorporated county will have approximately 39,890 housing units.

5.14.2 STANDARDS OF SIGNIFICANCE

The proposed project would result in a significant population and housing impact if it would:

1. Induce substantial unplanned unexpected population growth, or growth for which inadequate planning has occurred, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure).
2. Displace substantial numbers of existing people or housing units, necessitating the construction of replacement housing elsewhere.
3. In combination with past, present, and reasonably foreseeable projects, result in cumulative impacts with respect to population and housing.

5.14.3 PROPOSED GENERAL PLAN POLICIES

The following are policies of the Butte County General Plan Update relevant to population and housing impacts.

Housing Element

- H-P1.1: Evaluate the impact on the County's regional share of housing when considering General Plan Amendments.
- H-P1.2: Focus development in the unincorporated areas of the spheres of influence of the cities to accommodate the County's housing allocation.
- H-P1.3: Work to transfer portions of the County's Regional Housing Needs Allocations to cities in conjunction with annexations and when cities are more able to provide urban services needed by housing.
- H-P1.4: Maintain an adequate number and variety of sites to meet the County's Regional Housing Needs Allocation.
- H-P1.5: Promote infill development on appropriate sites in existing neighborhoods and reuse underutilized parcels throughout the Unincorporated Area.

- H-P1.6: Ensure that local land use policies updated as part of Butte County General Plan 2040, and any corresponding changes in zoning, are consistent with accommodating the County's regional share of housing for all income groups.
- H-P2.1: Support the development of affordable housing in locations with adequate services and transportation accessibility.
- H-P2.2: Work with other public agencies, developers, the incorporated municipalities, and nonprofit housing corporations to make use of state and federal programs for lower- and moderate-income housing, with priority for projects that will include units affordable to extremely low-income households and/or provide affordable studio or one-bedroom units.
- H-P2.3: Consistent with state law, provide density bonuses to homebuilders proposing to include a minimum specified percentage of lower- and moderate-income dwelling units within residential developments.
- H-P2.4: Ensure that developers and county residents are made aware of key housing programs and development opportunities, and offer County assistance as deemed appropriate for affordable projects.
- H-P2.5: Work with employers and housing partners to encourage the production of housing units on either employer-owned sites or other areas adjacent to their job sites.
- H-P2.6: Provide technical assistance to agencies and organizations that are involved in the development and construction of housing and/or provide support services.
- H-P2.7: Encourage self-help housing as an appropriate means of providing affordable ownership housing.
- H-P2.8: Allow housing developments with at least 20 percent affordable housing by right on lower-income housing sites that have been counted in previous housing element cycles, consistent with Government Code Section 65583.2(c).
- H-P3.1: Inspect residential buildings and identify code violations.
- H-P3.2: Continue to apply, when feasible, for state and federal assistance for housing rehabilitation for low-income households. Require that rental housing that is repaired with government assistance remain affordable to low-income households for a specified period of time.
- H-P3.3: Require the abatement or demolition of substandard housing that is not economically feasible to repair.
- H-P3.4: Seek the private rehabilitation of substandard dwelling units (as identified through code enforcement) and provide financial assistance, when available, to owners of dwelling units occupied by low-income households. In applying this policy, the County shall seek to avoid the displacement of low-income households.
- H-P4.1: Provide referrals for housing and services to homeless persons.
- H-P4.2: Partner with service providers to accommodate the needs of the homeless population in the Unincorporated Area.

- H-P4.3: Encourage transitional housing as a bridge between homeless facilities and independent living.
- H-P4.4: Continue to facilitate efforts of individuals, private organizations, and public agencies to provide safe and adequate housing for farmworkers.
- H-P4.5: Support appropriate amounts of farmworker and farm family housing in agriculturally zoned areas where it promotes efficiency in the farming operation and has a minimal impact on productive farmland.
- H-P4.6: Promote increased housing opportunities for the elderly, large families, young adults exiting the foster care system, and disabled persons.
- H-P4.7: Encourage alternative living arrangements for seniors, including market-rate retirement communities and affordable rental housing.
- H-P4.8: Encourage developers of rental units to build units for large families, and studio and one-bedroom units to facilitate independent living for persons with mental illness.
- H-P4.9: Provide reasonable accommodation for individuals with disabilities to ensure equal access to housing.
- H-P5.1: Continue to streamline review and approval of reconstruction of housing in communities impacted by wildfires.
- H-P5.2: Identify opportunities for property owners to voluntarily transfer development rights from high and very high fire hazard zones to safer, infill areas.
- H-P5.3: Streamline permitting process for residential building permits in fire impacted areas.

Land Use Element

- LU-P2.3: The County shall support planning efforts in unincorporated communities by providing knowledge, time and materials to community efforts.
- LU-P2.4: As resources become available, the County shall engage willing and interested unincorporated communities in community planning processes to set a community vision and develop Area Plans. Urban growth boundaries, community boundaries and spheres of influence may be developed as part of such processes.
- LU-P3.1: The County shall encourage housing that meets the needs of the local workforce, jobs that are suitable for local residents, and programs that reduce commuting and improve opportunities to live and work in the same community.
- LU-P4.1: The integrity and stability of existing residential neighborhoods shall be promoted and preserved.
- LU-P4.2: Residentially-designated land with High Density Residential and Very High Density Residential land use designations shall be developed at or above the minimum density range.
- LU-P8.1: Industry shall be near major transportation facilities.

- LU-P8.2: The County shall direct projected growth to areas where the appropriate level of transportation infrastructure is or will be available during the planning period.
- LU-P8.3: Applicants intending to develop sites served by existing public facilities shall be encouraged to develop at the highest allowable density and intensity.
- LU-P8.4: New industrial development shall be encouraged to locate in existing industrial areas until existing industrial areas have been fully utilized.
- LU-P8.5: Stores providing goods and services to support daily life in neighborhoods should be within walking distance to the majority of neighborhoods.
- LU-P8.6: The County shall encourage the construction of housing near employment centers, along with additional employment-generating uses near areas that are primarily residential.
- LU-P11.2: In conjunction with annexation agreements involving residential development, seek to transfer the applicable portion of the County's Regional Housing Needs Allocation (RHNA) to the annexing jurisdiction.
- LU-P14.2: New urban development shall be primarily located in or immediately adjoining already urbanized areas.
- LU-P15.2: This General Plan hereby incorporates by reference the policies and actions identified in the Upper Ridge Community Plan for the corresponding planning area.

Economic Development Element

- ED-P1.1: The County's priority for future growth is creating sustainable jobs and providing a living wage to families to reduce poverty.
- ED-P1.2: The County shall encourage a full range of commercial services at the regional, community and neighborhood levels.
- ED-P1.3: The County shall encourage a full range of recreational and tourism uses at Oroville Dam and Lake.
- ED-P1.4: Products and services for County operations should be purchased from Butte County locally-owned businesses whenever possible.
- ED-A1.1: Maintain a Regional Economic Development Strategy with the goals of growing existing businesses, ensuring Butte County is a competitive location for new investment, creating a sustainable business friendly reputation for the county, and improving the coordination of regional economic development resources and efforts.
- ED-A1.2: Create a countywide strategy to support the local manufacturing, office, and commercial sectors by improving infrastructure that supports manufacturing, office and commercial development, and promotes airport, highway, and rail development.
- ED-A1.3: Work with the five incorporated municipalities and economic development entities to jointly develop and maintain a countywide inventory of available industrial and commercial land and buildings.

- ED-A1.4: Establish a program for regional coordination of economic development to: focus on jobs creation and expansion; establish written agreements with local jurisdictions, economic development corporations and chambers of commerce; and maintain organizational ties to the Board of Supervisors.
- ED-A1.5: Coordinate with job training programs and organizations to tailor job training programs for county residents to match locally available jobs within the county.
- ED-P2.1: The County shall create and support opportunities to promote and market agricultural products grown or processed within Butte County (such as a Farmers' Market).
- ED-P2.2: The County shall encourage development of food processing and other facilities that could support production of "value-added" agriculture products from Butte County.
- ED-P2.3: The County shall promote agritourism, such as through special events and themed "farm trails" and routes within Butte County's agricultural areas.
- ED-P2.4: The County will support a Community Supported Agriculture (CSA) program if one is developed.
- ED-P2.5: The County supports existing grower cooperatives in Butte County.
- ED-P2.6: The County supports programs and projects that would help Butte County farmers provide carbon offsets, if and when new regulations require industries to provide carbon offsets.
- ED-P2.7: The County supports programs and projects that utilize agricultural by-products for "green" building material production and/or renewable energy production, such as using straw bales for building or converting rice straw to bio-fuels.
- ED-A2.1: Review and update the list of sites suitable for the development of a regionally focused agricultural center.
- ED-A2.2: Include agricultural marketing in the Countywide Economic Strategy to coordinate private and public initiatives and integrate them with County business attraction efforts.
- ED-A2.3: Support opportunities to promote agricultural products that are grown or processed in Butte County and including support for "brand recognition" for these products.
- ED-P3.1: The County shall utilize developer agreements as a tool to implement public facilities financing plans and to secure various benefits from significant new development projects.
- ED-P3.3: Major mixed use development projects shall develop non-residential uses concurrent with housing so that revenue- and job-generating uses do not appreciably lag residential development. Each phase of housing shall be accompanied by balanced revenue- and job-generating development.
- ED-P3.4: Reductions and exceptions to development impact fees shall be allowed only when an applicant can demonstrate that the reduction will result in a clear economic development benefit to the County. If the County elects to charge impact fees that are less than what is necessary to completely fund new development's share of projected countywide costs, County resources to "backfill" the foregone revenues shall be clearly identified and committed so that the impact fee program remains "whole."

- **ED-P3.5:** When County redevelopment project areas generate tax increment funds, these funds shall be used to pay for existing development's share of public improvement costs when other financing options do not exist.
- **ED-P3.6**: Formation of Redevelopment Project Areas or Infrastructure Financing Districts shall be explored where such mechanisms can provide financing tools to help pay for existing development's share of new public improvement costs.
- **ED-A3.1:** Coordinate with each municipality whereby the municipalities would adopt impact fees benefitting the County for all new development in their jurisdiction that generates demand for Countywide services. At a minimum, this coordination shall take place for new annexation proceedings.

Environmental Justice Element

- **EJ-P2.3:** The County shall encourage development in Communities of Opportunity that combines employment, housing, and services close to transit facilities.
- **EJ-P5.1:** Future improvements in Communities of Opportunity shall not result in a net loss of affordable housing or permanent displacement of residents.
- **EJ-P7.5:** The County shall promote entrepreneurship and locally owned businesses and enterprises in Communities of Opportunity to support economic self-sufficiency and stability.

Area Plans Element

- **D2N-O2.1:** Ensure an adequate supply of housing to meet the needs of all segments of the Planning Area.
- **D2N-P2.1**: Establish policies to regulate, subsidize and service housing within the Planning Area.
- **D2N-P2.2:** Prepare a housing element for Butte County and revise and update every 5 years in accordance with State law.
- **D2N-P2.3:** Provide an adequate amount of affordable multiple-family housing.
- **D2N-P2.4:** Extend public services to vacant areas ready for new housing starts by forming improvement districts.
- **D2N-O2.2:** Ensure that housing for all segments of the community is safe, sanitary and of the highest possible quality.
- **D2N-P2.5:** Encourage the upgrading of existing dwelling units which require rehabilitation to meet current standards of the Uniform Building Code.
- **D2N-P2.6:** Seek means and funds to improve the condition of dwellings found to be dilapidated or in deteriorating condition.
- **D2N-P2.7**: Evoke the power of condemnation and nuisance abatement for the eradication of dilapidated dwellings deemed no longer safe or sanitary.

- **D2N-O4.2:** Utilization of resources.
    a) Plan the population growth within the Planning Area to a level consistent with retaining a rural community lifestyle and recognizing environmental constraints.
    b) Support the continued viability of agricultural production as the major source of income, employment and economic viability of the Planning Area.

5.14.4 IMPACT DISCUSSION

PH-1	The proposed project 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).

General Plan 2040

As shown in Table 3-3, in Chapter 3, *Project Description,* Butte County is projected to house an estimated 73,122 residents by 2040. This is a 28 percent increase from 2020. Additionally, 29,478 housing units, 12,161 employees, 2.64 million square feet of retail and office space, and 3.58 million square feet of industrial uses are projected for 2040. The majority of the new residential units are projected to develop within the spheres of influence (SOIs) of the incorporated municipalities and in existing unincorporated communities.

The population growth anticipated through implementation of General Plan 2040 would be similar to that anticipated by BCAG in its population projections for unincorporated Butte County, as shown in Table 5.14-2, *BCAG Post Camp Fire Regional Forecasts and General Plan 2040 Projections*. Neither the projected population nor projected housing units for 2040 would exceed the BCAG Post Camp Fire Regional Growth Forecasts for the unincorporated county.

The General Plan 2040 land use model estimates that approximately 265,966 residents would be living in the entire county (including incorporated cities) by 2040, which is about 3,948 more residents than anticipated by BCAG in its population projections for the County in 2040. However, 6,755 fewer housing units are projected for the county when compared with the BCAG projections. This pattern can primarily be attributed to the effects of the Camp Fire. The Post Camp Fire Regional Growth Forecast notes that growth throughout the County is expected to slow over near- and long-term forecasts with larger cities like Chico absorbing the temporary displacement of residents from the Camp Fire in addition to permanent residents that cannot afford the costs of rebuilding. Increased building costs and homeowners insurance costs are expected to influence the re-building efforts for low-income residents (BCAG 2021).

TABLE 5.14-2 BCAG POST CAMP FIRE REGIONAL FORECASTS AND GENERAL PLAN 2040 PROJECTIONS

	BCAG RTP/SCS Projection	General Plan 2040 Projection
Unincorporated Population		
Population (2040)	86,466	73,122
Housing Units (2040)	39,890	29,478
Total County		
Population (2040)	262,018	265,966
Housing Units (2040)	113,925	107,170

Sources: BCAG 2021, Table 3-3 (Chapter 3, *Project Description*), Appendix 3-2.

General Plan 2040 includes several policies that will ensure responsible development within Butte County. Policies LU-P2.3 and LU-P2.4 support planning efforts in unincorporated communities through the development of community visions, area plans, urban growth boundaries, community boundaries, and SOIs. In addition, Policy LU-P14.2 requires that new urban development be primarily located in or immediately adjoining already urbanized areas.

Policy LU-P8.1 directs industry to be located near major transportation facilities. Policy LU-P8.2 requires that the County direct projected growth to areas where the appropriate level of transportation infrastructure is or will be available during the planning period. In addition, Policies LU-P15.3, LU-P8.3, LU-P8.4, and LU-P8.5 promote efficient infill development near public facilities.

The proposed Housing Element Update also includes the following policies that encourage the development of housing in the county in a way that supports the growth pattern of the county:

- H-P1.1: Evaluate the impact on the County's regional share of housing when considering General Plan Amendments.
- H-P1.2: Focus development in the unincorporated areas of the spheres of influence of the cities to accommodate the County's housing allocation.
- H-P1.3: Work to transfer portions of the County's Regional Housing Needs Allocations to cities in conjunction with annexations and when cities are more able to provide urban services needed by housing.
- H-P1.4: Maintain an adequate number and variety of sites to meet the County's Regional Housing Needs Allocation.
- H-P1.5: Promote infill development on appropriate sites in existing neighborhoods and reuse underutilized parcels throughout the Unincorporated Area.
- H-P1.6: Ensure that local land use policies updated as part of Butte County General Plan 2040, and any corresponding changes in zoning, are consistent with accommodating the County's regional share of housing for all income groups.
- H-P2.1: Support the development of affordable housing in locations with adequate services and transportation accessibility.

- H-P2.2: Work with other public agencies, developers, the incorporated municipalities, and nonprofit housing corporations to make use of state and federal programs for lower- and moderate-income housing, with priority for projects that will include units affordable to extremely low-income households and/or provide affordable studio or one-bedroom units.
- H-P2.3: Consistent with state law, provide density bonuses to homebuilders proposing to include a minimum specified percentage of lower- and moderate-income dwelling units within residential developments.
- H-P2.4: Ensure that developers and county residents are made aware of key housing programs and development opportunities and offer County assistance as deemed appropriate for affordable projects.
- H-P2.5: Work with employers and housing partners to encourage the production of housing units on either employer-owned sites or other areas adjacent to their job sites.
- H-P2.6: Provide technical assistance to agencies and organizations that are involved in the development and construction of housing and/or provide support services.
- H-P2.7: Encourage self-help housing as an appropriate means of providing affordable ownership housing.
- H-P2.8: Allow housing developments with at least 20 percent affordable housing by right on lower-income housing sites that have been counted in previous housing element cycles, consistent with Government Code Section 65583.2(c).
- H-P3.2: Continue to apply, when feasible, for state and federal assistance for housing rehabilitation for low-income households. Require that rental housing that is repaired with government assistance remain affordable to low-income households for a specified period of time.
- H-P4.3: Encourage transitional housing as a bridge between homeless facilities and independent living.
- H-P4.4: Continue to facilitate efforts of individuals, private organizations, and public agencies to provide safe and adequate housing for farmworkers.
- H-P4.5: Support appropriate amounts of farmworker and farm family housing in agriculturally zoned areas where it promotes efficiency in the farming operation and has a minimal impact on productive farmland.
- H-P4.6: Promote increased housing opportunities for the elderly, large families, young adults exiting the foster care system, and disabled persons.
- H-P4.7: Encourage alternative living arrangements for seniors, including market-rate retirement communities and affordable rental housing.
- H-P4.8: Encourage developers of rental units to build units for large families, and studio and one-bedroom units to facilitate independent living for persons with mental illness.
- H-P4.9: Provide reasonable accommodation for individuals with disabilities to ensure equal access to housing.

- H-P5.1: Continue to streamline review and approval of reconstruction of housing in communities impacted by wildfires.
- H-P5.2: Identify opportunities for property owners to voluntarily transfer development rights from high and very high fire hazard zones to safer, infill areas.
- H-P5.3: Streamline permitting process for residential building permits in fire impacted areas.

Because the population growth under General Plan 2040 would be similar to the level of growth anticipated by BCAG, and because General Plan 2040 includes policies that ensure that population growth is accommodated through responsible development, the proposed project would have a less-than-significant population growth impact.

Level of Significance Before Mitigation: PH-1 would be less than significant.

Mitigation Measures

No mitigation measures are required.

Upper Ridge Community Plan

As discussed in Chapter 3, *Project Description,* the URCP would increase development potential in the Upper Ridge community with 28 parcels redesignated from Retail and Office to Mixed-use land uses in the Old Magalia and Magalia Center neighborhoods. Potential future development under the proposed project would add additional residents to the Upper Ridge Community.

Approximately 2,200 homes in the Upper Ridge Community Area were destroyed by the Camp Fire, equivalent to almost 40 percent of the Plan Area's housing stock (Butte County 2022a). In 2017, the Plan Area had 5,500 housing units according to the Census Bureau's American Community Survey (Butte County 2022b). Over the five years ending in 2017, the Plan Area added about 16 new housing units each year (Butte County 2022b). In 2018, the Plan Area had about 650 jobs, or 51 jobs per 1,000 residents (Butte County 2022b).

As shown in Table 3-2 in Chapter 3, *Project Description*, the proposed land use changes could result in a maximum of 851 units if all parcels were developed at their proposed maximum allowed density of 20 units per acre without commercial uses. These units would generate approximately 1,915 new residents in the Upper Ridge Community.[1] If the acreages of all parcels were developed for exclusively commercial uses that their proposed maximum allowed floor-area ratio (FAR) of 0.5, the resulting commercial square footage would be approximately 0.926 million square feet. This would generate approximately 2,008 employees.[2] Note that these estimates are conservative as they assume all parcels will be developed for either exclusively residential uses or exclusively commercial uses at their maximum allowed land use standards.

[1] This figure assumes that all residents of the resulting developments are new residents to the unincorporated county. This figure was calculated using the DOF Table E-5 figure of 2.25 average persons per household for unincorporated Butte County.

[2] This figure was generated using the average square feet per employee (461.5) in the BCAG 2020 RTP/SCS technical methodology for the Land Use Allocation Model.

The General Plan 2040 land use model estimates a population of approximately 11,881 in the community of Magalia. The 2020 population of Magalia estimated by the land use model is 10,635. The addition of 1,915 new residents or 2,008 new employees would exceed the projected population increase in the community. However, as noted in the URCP, almost 40 percent of the Upper Ridge community's approximately 5,500 housing units were destroyed in the Camp Fire. The addition of 851 new units in the community would help accommodate the current shortfall of housing in addition to assisting with the economic recovery efforts. Much of this development is expected to replace the community's lost residential and commercial sites as opposed to creating additional growth. Additionally, as noted in the previous discussion of General Plan 2040, the proposed project includes several policies in both the Land Use and Housing Elements that direct growth to occur in infill areas with access to services. The growth proposed in the Upper Ridge community is consistent with these policies. Furthermore, since the land use action proposed by General Plan 2040 is supported by the URCP, the proposed project would not induce substantial unplanned growth. Impacts therefore would be less than significant.

Level of Significance Before Mitigation: PH-1 would be less than significant.

Mitigation Measures

No mitigation measures are required.

PH-2	The proposed project would not displace substantial numbers of existing people or housing units, necessitating the construction of replacement housing elsewhere.

General Plan 2040

Implementation of General Plan 2040 is not expected to result in the displacement of a substantial number of housing units. The proposed project aims to increase the resilience of housing in the county against wildfire hazards and other threats identified in the Community Health and Safety Element Update, in addition to facilitating the replacement and rehabilitation of housing lost or damaged in the Camp Fire. Approximately 5,589 housing units are expected to be added to the unincorporated county between 2020 and 2040, which would result in a 28 percent increase in the county's housing stock.

A portion of this growth is expected to replace the housing lost under the Camp Fire in 2018. The Camp Fire resulted in the destruction of 18,804 residential and commercial structures in Butte County (CAL FIRE 2022). As of September 23, 2022, the County has issued 512 Camp Fire Survivor Housing Re-Build permits to parcels inside the burned area, and 39 of these permits have been issued to qualifying residences outside of the burned area (Butte County 2022a). The County's *Post Camp Fire Regional Population and Transportation Study* estimates that approximately 7,397 total housing units will be rebuilt in the county by 2045 to replace the lost housing (Butte County 2022a).

No substantial redevelopment projects are envisioned, and it is expected that the majority of development under General Plan 2040 would occur as residential and nonresidential uses are developed on vacant or underutilized parcels. If redevelopment under General Plan 2040 occurs, there is the potential that it would

displace existing residential units. However, all redevelopment of parcels would be voluntary in nature, and no housing units would be displaced without permission of the property owners.

In addition, General Plan 2040 includes policies that reduce impacts of development on existing housing units. Land Use Element Policy LU-P4.1 requires that the integrity and stability of existing residential neighborhoods be promoted and preserved. The Housing Element Update includes additional policies that would help to prevent impacts related to the displacement of housing. Policy H-P3.2 states the following: continue to apply, when feasible, for state and federal assistance for housing rehabilitation for low-income households. Require that rental housing that is repaired with government assistance remain affordable to low-income households for a specified period of time. H-P3.4 states the following: seek the private rehabilitation of substandard dwelling units (as identified through code enforcement) and provide financial assistance, when available, to owners of dwelling units occupied by low-income households. In applying this policy, the County shall seek to avoid the displacement of low-income households. Policy H-P3.1 states: inspect residential buildings and identify code violations and Action H-A3.1 addresses code enforcement needs to maintain housing in adequate condition. These existing policies and actions will help to maintain the existing housing stock.

Furthermore, implementation of General Plan 2040 is projected to result in a net increase of 388,000 square feet of commercial use and 91,000 square feet of industrial use, which may serve as places of employment within Butte County. As a result, General Plan 2040 is not expected to displace substantial numbers of people who either live, work, or do both within Butte County.

Because General Plan 2040 would allow a net increase of housing and would not envision substantial redevelopment projects, because General Plan 2040 includes policies and actions that preserve existing neighborhoods, because housing is protected and preserved under the adopted 2022 Housing Element, and because the General Plan 2040 is projected to result in an increase in square footage of commercial and industrial use, the proposed project would have a less-than-significant impact related to people and housing displacement.

Level of Significance Before Mitigation: PH-2 would be less than significant.

Mitigation Measures

No mitigation measures are required.

Upper Ridge Community Plan

As discussed in Chapter 3, *Project Description,* the URCP would increase development potential in the Upper Ridge community with 28 parcels redesignated from Retail and Office to Mixed-use land uses in the Old Magalia and Magalia Center neighborhoods. Potential future development under the proposed project would add an estimated 851 new residential units and 1,915 additional residents to the Upper Ridge Community if all parcels were developed for residential uses. If all parcels were developed for commercial uses, the resulting square footage is estimated to be 0.926 million square feet accommodating an estimated 2,008 employees.

As noted previously, the Upper Ridge area experienced a substantial loss of housing and commercial properties as a result of the Camp Fire. Much of the development that would occur as a result of the proposed project's designation and zone changes would replace the lost residential and commercial properties. The 28 sites in the project are primarily vacant, underutilized properties, and are designated for office and retail uses. The redesignating and rezoning of these sites to mixed use would not result in substantial displacement and instead allow for an increase in housing in the Plan Area. Therefore, impacts are less than significant.

Level of Significance Before Mitigation: PH-2 would be less than significant.

Mitigation Measures

No mitigation measures are required.

5.14.5 CUMULATIVE IMPACTS

PH-3	The proposed project, in combination with past, present, and reasonably foreseeable projects, would result in less-than-significant cumulative impacts with respect to population and housing.

General Plan 2040 includes policies and actions to ensure responsible development in Butte County. General Plan 2040 would not cause substantial unexpected population growth and would improve jobs and housing opportunities in the county. Growth would also occur outside of unincorporated Butte County in other nearby cities and counties. These jurisdictions are required by State law to use the General Plan process, as well as other planning processes, such as utility master plans, to plan for and control future growth. As a result, General Plan 2040 would have a less-than-significant cumulative impact related to population and housing.

Level of Significance Before Mitigation: PH-3 would be less than significant.

Mitigation Measures

No mitigation measures are required.

5.14.6 REFERENCES

Butte County Association of Governments (BCAG). 2021, April. *Post Camp Fire Regional Population and Transportation Study*. http://www.bcag.org/documents/Camp%20Fire/Post-Camp-Fire-Study-Appendix-A.pdf

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5.15 PUBLIC SERVICES, PARKS, AND RECREATION

This chapter describes the regulatory framework and existing conditions in the Plan Area related to public services, parks, and recreation, and the potential impacts of the project on public services, parks, and recreation.

This chapter covers the following public services and facilities:

- Fire Protection
- Police
- Schools
- Libraries
- Parks and Recreation Facilities

The information provided in the Existing Conditions sections of this chapter was provided by the *Butte County General Plan Setting and Trends* document that was prepared in 2021 for General Plan 2040.

5.15.1 FIRE PROTECTION SERVICES

This section describes current conditions and potential impacts of the proposed General Plan 2040 with regard to fire protection services in Butte County.

5.15.1.1 ENVIRONMENTAL SETTING

Regulatory Framework

State Regulations

California Fire Code

The 2019 California Fire Code (Title 24, Part 9 of the California Code of Regulations) establishes regulations to safeguard against hazards of fire, explosion, or dangerous conditions in new and existing buildings, structures, and premises. The Fire Code also establishes requirements intended to provide safety and assistance to firefighters and emergency responders during emergency operations. The provisions of the Fire Code apply to the construction, alteration, movement, enlargement, replacement, repair, equipment, use and occupancy, location, maintenance, removal, and demolition of every building or structure throughout the State of California. The Fire Code includes regulations regarding fire-resistance-rated construction, fire protection systems such as alarm and sprinkler systems, fire services features such as fire apparatus access roads, means of egress, fire safety during construction and demolition, and wildland-urban interface areas.

California Health and Safety Code

Additional state fire regulations are set forth in Section 13000 et seq. of the California Health and Safety Code, which include regulations for building standards, fire protection and notification systems, fire protection devices such as extinguishers, smoke alarms, high-rise building and childcare facility standards, and fire suppression training.

California Occupational Safety and Health Administration

In accordance with the California Code of Regulations, Title 8, Sections 1270, Fire Prevention, and 6773, Fire Protection and Fire Fighting 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.

Local Regulations

Butte County General Plan 2030

The following policies are included in the existing General Plan regarding fire protection. The numbering is from the existing General Plan and therefore may not be consecutive.

Circulation Element

- Goal CIR-9 Provide a circulation system that supports public safety.
    - CIR-P9.1 All new road systems, both public and private, shall provide for safe evacuation of residents and adequate access to fire and other emergency services by providing at least two means of emergency access to an interconnected collector system. New road systems will include reduction and maintenance of roadside vegetation.

Public Facilities and Services Element

- Goal PUB-2 Provide adequate fire protection and emergency medical response services to serve existing and new development.
    - PUB-P2.1 The County supports the expansion of fire volunteer services, especially in remote areas, as warranted by Standards of Cover criteria.
    - PUB-P2.2 The adopted Standards of Cover for fire protection shall be maintained and implemented.
    - PUB-P2.3 New fire stations shall be located on sites that are easily accessible, close to existing or future development and/or close to fire hazard areas.

Butte County Code of Ordinances

The Butte County Code of Ordinances includes the following provisions to ensure that fire protection services are funded and provided to all parts of the County. The provisions related to wildfire and evacuation are discussed in detail in Chapter 5.18, *Wildfire*.

- Chapter 3, Article V, Fire Department Processing Fees. This article specifies the various fees that are required to be paid to the Butte County Fire Department (BCFD) for the processing of applications for land use entitlements. These fees include a fire protection planning fee, a California Fire Code and special permits fee, an emergency response fee, and a non-emergency response fee.
- Chapter 3, Article XXIII, Development Impact Fees for Fire Facilities and Vehicles Unincorporated Area. This provision in the code authorizes the levying of development impact fees for fire facilities and vehicles upon the owners of real property in the unincorporated area of Butte County (excluding the North Chico Specific Plan Area and the real property within the El Medio Fire Protection District), adding or expanding one or more residential or nonresidential units to such property, in an amount sufficient to defray the cost of acquiring, developing, or improving fire facilities, equipment, and vehicles made necessary by an increase or change in the use of such property.

Upper Ridge Community Plan

The Butte County Board of Supervisors adopted the Upper Ridge Community Plan (URCP) on March 8, 2022. General Plan 2040 Policy LU-P15.2 states: this General Plan hereby incorporates by reference the policies and actions identified in the Upper Ridge Community Plan for the corresponding planning area. The following strategies are included in the existing URCP regarding fire protection services. The numbering is from the plan and therefore may not be consecutive.

Hazard Risk Reduction Strategies – Human Health Hazards

- **Strategy HS-1.16:** Work with local medical providers to establish a medical center that is open every day on the Upper Ridge that provides basic medical services including, but not limited to, emergency care, vaccine administration, and preventative medical care.
- **Strategy HS-1.17:** Continue to coordinate with the Butte County Mosquito & Vector Control District to provide mosquito and vector control and abatement activities on the Upper Ridge to prevent the spread of disease.

Hazard Risk Reduction Strategies – Wildfire

- **Strategy HS-1.22:** Work with landowners, including absentee landowners, to safely maintain vegetation along driveways and private roads to be fire safe.
    - Coordinate with the County Fire Department to enforce defensible space and vegetation management requirements on properties with absentee landowners.
- **Strategy HS-1.24:** Cluster new development on the Upper Ridge to reduce exposure to wildland areas, streamline evacuations, and ensure adequate fire protection services can be provided.

- **Strategy HS-1.25:** Coordinate with Butte County Fire Safe Council to increase the use of the chipper program on the Upper Ridge.
- **Strategy HS-1.26:** Coordinate with Butte County Fire Safe Council to identify funding sources and implement the projects identified in the Community Wildfire Protection Plan for the Magalia Planning Unit. These include, but are not limited to permitted, planning, and proposed fuel reduction projects such as:
    - Mechanical thinning
    - Fuel breaks
    - Chipping
    - Fuel reduction
    - Thinning for hazardous fuel reduction
- **Strategy HS-1.27:** Require landscaping for new single-family residential, multifamily residential, and commercial developments to use fire-resistant landscaping, which uses strategically placed fire-resistant plants to resist the spread of fire to buildings and structures, that will continue to be viable on the Upper Ridge under long-term drought conditions. Fire-resistant landscaping should be consistent with guidance from CAL FIRE's Ready, Set, Go! Program.

Existing Conditions

The BCFD, with support from the California Department of Forestry and Fire Protection (CAL FIRE), provides fire protection to unincorporated areas of Butte County; the Cities of Biggs, Oroville, and Gridley; and the Town of Paradise. The incorporated jurisdiction of Chico plays an important role in providing fire protection services in the areas within its jurisdiction, as well as coordination with BCFD in the areas surrounding their jurisdictions. The El Medio Fire District used to provide fire protection services to the unincorporated area south of Oroville; however, the El Medio Fire District stopped operating on December 25, 2020. Since then, the BCFD and City of Oroville have agreed to provide fire protection services within the district's service area until an official agreement for services is completed (Gaddie, pers. comm. 2021). CAL FIRE also operates its own seasonal stations and an air attack base within the county. Additionally, the U.S. Forest Service provides seasonal wildland fire protection in the Plumas and Lassen National Forests, which have small portions within Butte County.

Butte County Fire Department

Since 1931, the County has contracted with CAL FIRE to provide staffing to the BCFD through an annual cooperative agreement. Under the terms of this agreement, the County funds CAL FIRE professional command, firefighting, and administrative staff to operate the BCFD. Through this arrangement, CAL FIRE and the BCFD function together as a fully consolidated fire protection agency and provide cost-effective fire protection service for Butte County.

Service

BCFD provides emergency services to all of Butte County, protecting over 1,600 square miles, several municipalities, and the entire unincorporated county population.

BCFD services include fire control for structural, vegetation, vehicular and other unwanted fires; emergency medical service, technical rescue response; hazardous materials response; flood control assistance; fire prevention and public safety education; fire law enforcement/arson investigation; and vegetation management. In addition, the BCFD operates county-wide dispatch services, coordinates major emergency response within the county as the Office of Emergency Services operational area coordinator, and provides training for career and volunteer firefighters.

In 2020, the CAL FIRE and BCFD Emergency Command Center (ECC) processed 12,293 calls for service within the unincorporated areas of the county, more than two-thirds of which were for emergencies such as medical services, traffic collisions, and public assistance. BCFD also responded to 679 fires, of which 273 were vegetation fires. In 2020, the BCFD responded 12 times to incidents involving chemicals or hazardous materials. Other responses, such as public assists, traffic collisions, false fire alarms, assists to other agencies, medical response, downed powerlines, and law enforcement operations totaled 2,285 responses (Gaddie 2021).

In addition to fire engine responses, in 2020, the Butte Fire Center provided 36,702 hours in fuel-reduction project work, including controlled burns and fire crew training. The Fire Prevention Bureau also assisted with 297 law enforcement incidents and completed 5,156 defensible space inspections across the county. The department's ECC provides Emergency Medical Dispatch (EMD) services. In 2020, the ECC provided EMD instruction to 5,598 callers. EMD procedures provide lifesaving instructions such as Cardiopulmonary Resuscitation (CPR), control of bleeding, childbirth, choking, and other emergency medical information before fire engines and paramedics arrive.

Automatic Aid and Mutual-Aid Agreements

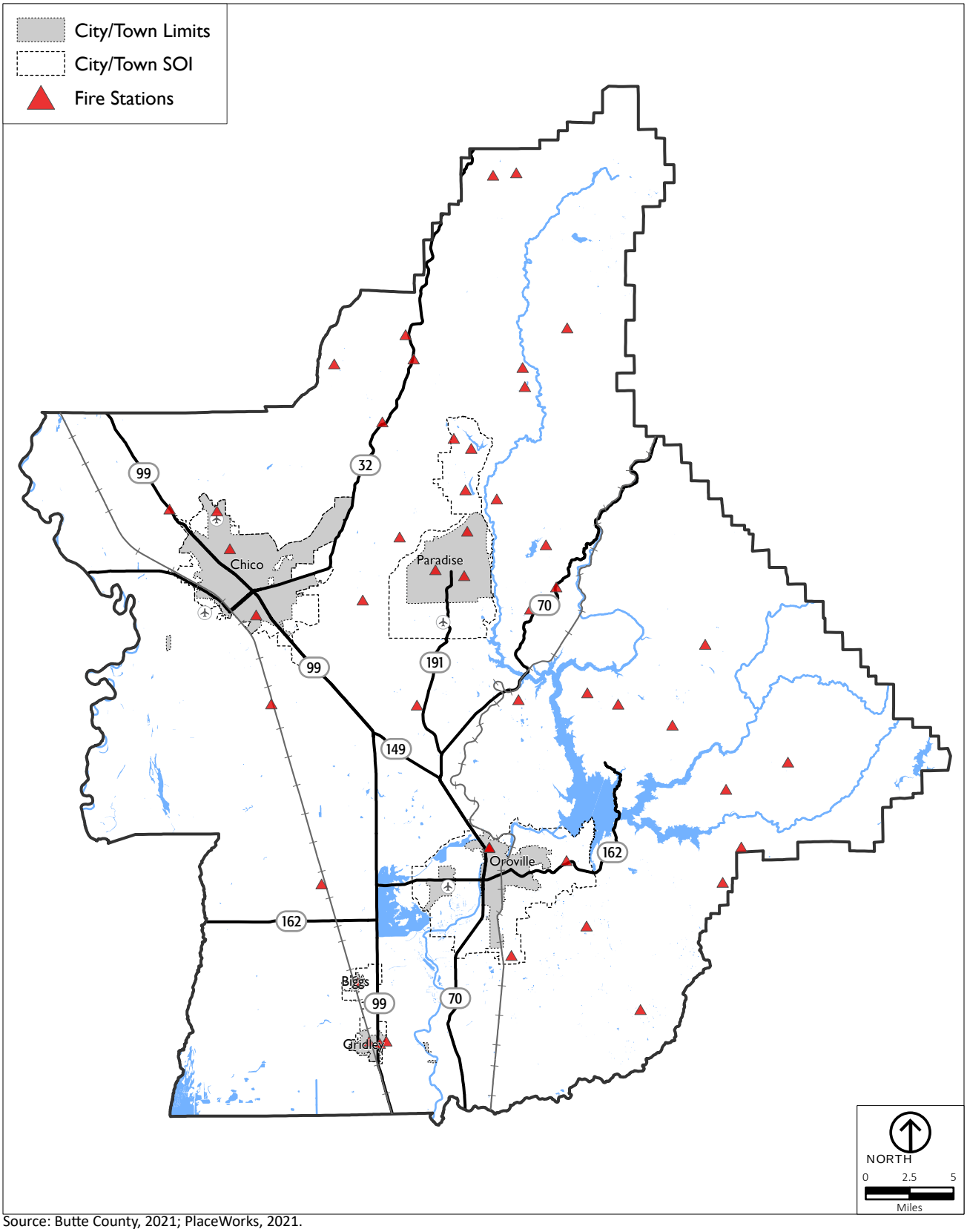
The BCFD has established automatic aid and mutual-aid agreements with other fire protection agencies to provide optimal fire protection service to the entire county. Automatic-aid agreements allow the resources nearest to an emergency situation to be dispatched on the first alarm regardless of jurisdiction, while mutual-aid agreements require a specific request for help on an incident-by-incident basis. The BCFD has automatic-aid agreements with all fire-fighting agencies in the county, as well as with the U.S. Forest Service, Lassen and Plumas National Forests, Hamilton City in Glenn County, Sutter County, Tehama County, and several fire districts in Yuba County.

Volunteer Fire Companies

BCFD is supported by 124 volunteer firefighters. These volunteers are organized into 16 local companies and are an integral component of the fire protection system in Butte County. The volunteer companies are dispatched by the CAL FIRE/BCFD ECC as needed. The volunteer companies make up an essential part of the County fire protection system, often providing the first response to an emergency in the rural portions of the county that are some distance from a BCFD or CAL FIRE station.

Although the volunteer companies are organized within and supported by the local communities, they operate as part of the county-wide fire protection system and receive regular training by the BCFD and CAL FIRE career firefighters. Recruitment and retention continues to be a problem within the BCFD volunteer fire company program. This problem is not unique to the fire service in Butte County; it is a nationwide issue. From 2016 to 2019, BCFD volunteer numbers decreased by 17 percent.

The volunteer facilities include shared stations with the BCFD, stand-alone stations, and in a few cases, stations in name only, where the equipment is kept outside. The volunteer companies are listed in Table 5.15-1, as are CAL FIRE and BCFD stations. Figure 5.15-1, *Fire Stations*, displays the locations of fire stations operated by CAL FIRE, BCFD and other agencies.



Source: Butte County, 2021; PlaceWorks, 2021.

Figure 5.15-1
Fire Stations

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TABLE 5.15-1 FIRE STATIONS IN THE UNINCORPORATED AREAS OF BUTTE COUNTY

No.	Location	Type
10	Butte Meadows	BC Volunteer
11	Butte Meadows (open during fire season only)	CAL FIRE/LNF
12	Stirling City	BC Volunteer
13	Stirling City	CAL FIRE/BCFD (Amador)
17	Butte Fire Center	CAL FIRE
21	Cohasset	BC Volunteer (No station)
22	Cohasset (open during fire season only)	CAL FIRE
23	Forest Ranch	CAL FIRE/BCFD (Amador)
24	Forest Ranch	BC Volunteer
25	Butte Valley	BC Volunteer
26	Centerville Canyon	BC Volunteer
27	Centerville Canyon	BC Volunteer
31	Magalia	BC Volunteer
33	Magalia	BCFD/BC Volunteer
35	Paradise	CAL FIRE/BCFD (Amador)
36	Jarbo Gap	CAL FIRE/BCFD (Amador)
37	Concow	BC Volunteer
38	Concow	BC Volunteer
41	Nord	BCFD
42	North Chico	BCFD/BC Volunteer
44	South Chico	BCFD
45	Durham	BCFD/BC Volunteer
51	Feather Falls (open during fire season only)	CAL FIRE
52	Feather Falls	BC Volunteer
54	Robinson Mills	CAL FIRE/BCFD (Amador)
55	Bangor	BCFD
60	Brush Creek	BC Volunteer
61	Berry Creek	BC Volunteer
62	Harts Mill	CAL FIRE/BCFD (Amador)
63	Oroville	CAL FIRE/BCFD
64	Kelly Ridge	BCFD/BC Volunteer
66	Wyandotte	BC Volunteer
67	Cherokee	BC Volunteer
71	Richvale	BCFD/BC Volunteer
72	Palermo	BCFD
73	Biggs	BCFD
74	Gridley	BCFD/BC Volunteer

Notes: BCFD = Butte County Fire Department
BC Volunteer = Butte County Volunteer
CAL FIRE/BCFD (Amador) = CAL FIRE station that is paid in part by the County during non-fire season
BCFD/BC Volunteer = Butte County Fire Department combined with Butte County Volunteer
Source: Table 7-1, Butte County 2021a.

Organization

The BCFD is organized into two divisions. The North Division covers the Chico, Durham, and Paradise areas primarily, and works in cooperation with the City of Chico and the Town of Paradise. The South Division covers Oroville and surrounding area and works in cooperation with the Cities of Gridley and Biggs. Administration support staff are also available to assist the BCFD with finances, human resources, and other support services.

The North and South Divisions are divided into seven battalions, each of which in turn are made up of a mixture of BCFD and CAL FIRE stations and volunteer fire companies. Within the county fire department system, there are 26 fire stations staffed with career firefighters in the summer and 16 fire stations staffed with career firefighters in the winter. Career-staffed personnel include 71 personnel in the summer and 54 personnel in the winter (Gaddie, pers. comm. 2021). The North and South Divisions also include 16 volunteer fire companies and the Chico Air Attack Base at the Chico Municipal Airport.

BCFD/CAL FIRE

The year-round BCFD stations, situated in a number of communities, were built to serve the needs of expanding local populations. Each of the BCFD stations is staffed with at least two firefighters 24 hours per day. In June of 2022, the City of Oroville's fire department entered into a cooperative agreement with CAL Fire to provide staffing and service.

The CAL FIRE stations are primarily in the foothills of the eastern portion of the county. These stations operate primarily during the summer wildfire season, although a number of stations are staffed year-round to provide protection to county residents. In addition, CAL FIRE operates the Chico Air Attack Base, which includes an air tanker that is capable of hauling 1,200 gallons of fire retardant to provide a fast initial attack to help CAL FIRE attain its goal of stopping 95 percent of all vegetation fires at 10 acres or less.

The BCFD and CAL FIRE headquarters, Administrative Division, ECC, Fire Prevention Bureau, and Fleet Maintenance activities are in Oroville. The need for additional fire stations and replacement of existing stations is being considered by Butte County.

CAL FIRE operates 60 fire-fighting and support vehicles as well as one air tactical aircraft and one air tanker from the Chico Air Attack Base during fire season. The BCFD operates 88 fire-fighting and support vehicles. This number includes vehicles assigned to BCFD stations and those assigned to volunteer companies. The BCFD runs a preventative maintenance program to help maintain the fleet to avoid unscheduled repairs and breakdowns.

City of Chico Fire Department

The City of Chico Fire Department operates four fire stations and firefighters staff these stations 24 hours a day year-round. The stations are staffed by 60 full-time firefighters; 57 of the firefighters are uniformed. Additionally, there are currently eight active volunteer firefighters in the department. The Fire Department provides response to structural, vegetation, vehicle, and other unwanted fires, medical aid, and other rescue services to Chico city residents. The area covered by the City of Chico Fire Department is

33 square miles. In accordance with the Chico Urban Area Fire and Rescue Agreement (an automatic-aid agreement), the Department provides first response to emergencies in the unincorporated county area surrounding the city, when the City engine is the closest resource. In exchange, County resources respond to city emergencies when a County engine is the closest resource.

Town of Paradise Fire Department

The Town of Paradise Fire Department has a cooperative agreement with CAL FIRE that provides staffing for three fire stations. Two of the fire stations are staffed with three-person engines and one station is staffed with a two-person engine. In addition, CAL FIRE maintains a fire station in the neighboring community of Magalia and the resources at the station are available to the Town of Paradise if needed. The Town of Paradise Fire Department also employs a fire marshal, fire prevention inspector, and administrative assistant. The Paradise Fire Department responds to fires, emergency medical services, hazardous materials, rescues, and public assists. BCFD provides fire training for the town's volunteer firefighters.

El Medio Fire District

The El Medio Fire District used to provide fire protection services to the unincorporated area south of Oroville; however, the District stopped providing fire protection services on December 25, 2020. In conjunction with the City of Oroville, BCFD has agreed to provide fire protection services within the El Medio Fire District until an official agreement for services is completed (Gaddie 2021).

Fire Rating

The Insurance Service Office (ISO) collects information on municipal fire-protection efforts and rates individual communities as they compare to a nation-wide standard. The fire ratings range on a scale from Class 1 to 10, where Class 1 represents exemplary public protection, and Class 10 indicates that the area's fire-suppression program does not meet the ISO's minimum criteria. Those areas of Butte County that are within 5 miles of a fire station and within 1,000 feet of a fire hydrant or "recognized water system" have an ISO rating of 4. Areas within 5 miles of a fire station but not within 1,000 feet of a recognized water system have an ISO rating of 8B. Areas that are not near a fire station or water system have an ISO rating of 10.

5.15.1.2 STANDARDS OF SIGNIFICANCE

The proposed project would have a significant impact with regard to fire protection and emergency services if it would:

- Result in substantial adverse physical impacts associated with the provision of new or physically altered fire protection and emergency medical facilities or a need for new or physically altered fire protection or emergency medical facilities, the construction of which could cause significant environmental impacts to maintain acceptable service ratios, response times, or other performance objectives.

5.15.1.3 PROPOSED GENERAL PLAN POLICIES

The following are relevant policies of the Butte County General Plan Update, which may reduce impacts to fire protection services as a result of implementation of the proposed project.

Health and Safety Element

- HS-P12.5: New development, significant retrofits, and reconstruction projects in in High and Very High Fire Hazard Severity Zones, as well as the Wildland-Urban Interface, shall be consistent with the California Building Standards Code, California Fire Code, and California Fire Safe Standards requirements.
- HS-P.14.1: The County shall advocate for adequate fire insurance coverage and premiums with the California Insurance Commission and California State Legislature.
- HS-P16.2: The County shall continue multi-agency preparedness coordination and mutual-aid agreements among agencies to provide emergency services during disasters.
- HS-P16.3: The County shall ensure emergency services can adequately serve the existing and future needs of residents and visitors.
- HS-P16.4: Critical emergency response facilities such as fire, police, emergency service facilities, and utilities shall be sited to minimize their exposure to flooding, seismic effects, fire, or explosion.
- HS-P16.5: Emergency access routes shall be kept free of traffic impediments.
- HS-P18.2: The County shall require new development to demonstrate access to adequate evacuation routes during potential hazard events that have capacity for residents, workers, and visitors to effectively evacuate. Evacuation routes shall demonstrate consistency with the SRA Fire Safe Regulations and Section 4290 of the California Public Resources Code.

Public Facilities and Service Element

- PUB-P1.1: Residents shall be educated about the realities of rural living and expectations regarding the availability of services and service response times in rural areas.
- PUB-P1.2: County facilities shall be designed, constructed and operated to be environmentally sustainable, and beneficial to the community and the region.
- PUB-P1.5: All service providers shall be offered appropriate opportunities to comment on pending development project applications.
- PUB-P2.1: The County supports the expansion of fire volunteer services, especially in remote areas, as warranted by Standards of Cover criteria.
- PUB-P2.2: The adopted Standards of Cover for fire protection shall be maintained and implemented.
- PUB-P2.3: New fire stations shall be located on sites that are easily accessible, close to existing or future development and/or close to fire hazard areas.

- **PUB-P2.4:** The County supports coordinated efforts between State, federal, and local agencies; nonprofit organizations; and BCFD to plan, obtain funding, and implement fuels reduction projects to protect residents in and around fire hazard areas.

Land Use Element

- **LU-P9.1:** The County shall work with municipalities and service providers to ensure that services are available for new development and consistent with master plans.
- **LU-P14.2:** New urban development shall be primarily located in or immediately adjoining already urbanized areas.

5.15.1.4 IMPACT DISCUSSION

This section analyzes the proposed project's potential impacts to fire protection services.

PS-1	The proposed project would not result in the need for new or physically altered fire protection and emergency medical facilities, the construction of which could cause significant environmental impacts to maintain acceptable service ratios, response times, or other performance objectives.

General Plan 2040

New growth under General Plan 2040, primarily in the Upper Ridge Area would result in new population from residential and commercial development, which would increase demand for fire protection services. As a result, additional staff and equipment would be required to maintain or improve current response times. It is likely that new or expanded facilities would be required, which could include new fire houses or outdoor training areas, depending on the extent to which BCFD/CAL FIRE would be required to expand capacity. It is not known at what time or location such facilities would be required in Butte County or what the exact nature of these facilities would be. New or expanded facility locations will be influenced by population growth to serve county residents. As a result, it cannot be determined what project-specific environmental impacts would occur from their construction and operation. These potential impacts would be identified during the facility site selection process. However, General Plan 2040 requires that County facilities be designed, constructed, and operated to be environmentally sustainable and beneficial to the community and the region through Policy PUB-P1.2.

In addition, the proposed General Plan 2040 contains policies that aim to provide adequate fire protection and emergency medical response services to serve existing and new development. Policy PUB-P2.2 requires that the adopted Standards of Cover for fire protection be maintained and implemented, and Policy PUB-P2.3 requires that new fire stations be located on sites that are easily accessible, close to existing or future development, and/or close to fire hazard areas. Policy PUB-P2.1 supports the expansion of fire volunteer services, especially in remote areas. In addition, Land Use Element Policy LU-P9.1 directs the County to work with municipalities and service providers to ensure that services are available for new development and consistent with master plans. Policy LU-P15.2 also helps to minimize fire protection service expansion needs by directing new urban development to already urbanized areas. Furthermore,

Health and Safety Element Policy HS-P16.3 requires that the County ensure emergency services can adequately serve the existing and future needs of residents and visitors and Policy HS-18.2 directs the County to require new development to demonstrate access to adequate evacuation routes during potential hazard events that have capacity for residents, workers, and visitors to effectively evacuate. Evacuation routes shall demonstrate consistency with the State Responsibility Area (SRA) Fire Safe Regulations and Section 4290 of the California Public Resources Code.

Health and Safety Element Goals HS-11 and HS-12 and their associated policies and actions reduce fire protection service needs by minimizing fire risks. In particular, Action HS-A11.1 directs the County to seek funding to identify and complete roadside fuel-reduction projects and maintain necessary clearance zones on critical roads to reduce wildfire risk, increase visibility, and maintain safe evacuation routes and coordinate with the Butte County Community Wildfire Protection Plan (CWPP). Action HS-A11.4 requires that the County to develop standardized wildfire risk assessment and mitigation procedures for projects within the SRA and Very High Fire Hazard Severity Zones. Action HS-A11.6 directs the County to develop and conduct public outreach and education programs to educate public and private landowners about projected high-risk wildfire areas that may increase in severity due to climate change and support communities within the wildland-urban interface by teaching property owners about defensible space, vegetation management, and fire-safe landscaping practices. Furthermore, Policy HS-P12.5 requires that new development, significant retrofits, and reconstruction projects in High and Very High Fire Hazard Severity Zones, as well as the Wildland-Urban Interface, shall be consistent with the California Building Standards Code, California Fire Code, and California Fire Safe Standards requirements. As a result of the proposed policies, fire protection service impacts would be less than significant.

Level of Significance Before Mitigation: PS-1 would be less than significant.

Mitigation Measures

No mitigation measures are required.

Upper Ridge Community Plan

As discussed in Chapter 3, *Project Description*, the URCP would increase development potential in the Upper Ridge community with 28 parcels redesignated from Retail and Office to Mixed-use land uses in the Old Magalia and Magalia Center neighborhoods. The Plan Area would primarily be served by BCFD Station 33 on Skyway Boulevard in Magalia. Potential future development under the proposed project would add 1,915 additional residents to the Upper Ridge Community. This action may increase the need for fire protection services in the Upper Ridge area. However, should the construction or expansion of facilities to accommodate additional personnel or equipment become necessary, California Environmental Quality Act (CEQA) review, General Plan provisions, Ordinance Code regulations, and payment of impact fees would all be required.

Development in the Plan Area would also be required to comply with the 2040 General Plan policies listed above, including Policy HS-P12.5, which requires that new development, significant retrofits, and reconstruction projects in High and Very High Fire Hazard Severity Zones, as well as the wildland-urban interface, be consistent with the California Building Standards Code, California Fire Code, and California Fire Safe Standards requirements and Policy HS-P16.3, which requires the County to ensure emergency services can adequately serve the existing and future needs of residents and visitors. Compliance with the applicable policies would ensure that fire protection services are provided to the Plan Area.

Level of Significance Before Mitigation: PS-1 would be less than significant.

Mitigation Measures

No mitigation measures are required.

5.15.1.5 CUMULATIVE IMPACTS

PS-2	The proposed project, in combination with past, present, and reasonably foreseeable projects, would not result in less-than-significant cumulative impacts with respect to fire protection services.

Future regional growth would result in increased demand for fire protection services throughout the region. Additionally, Butte County provides fire protection services to neighboring jurisdictions via mutual-aid agreements, as well as calls upon them for assistance. However, as Butte County would provide for additional fire protection services within its own boundaries and would be required to address the potential environmental impacts of the development of additional or expanded fire stations, General Plan 2040 would have a less-than-significant cumulative impact related to fire protection services.

Level of Significance Before Mitigation: PS-2 would be less than significant.

Mitigation Measures

No mitigation measures are required.

5.15.2 POLICE SERVICES

This section describes current conditions and potential impacts of the proposed General Plan 2040 with regard to police services in Butte County.

5.15.2.1 ENVIRONMENTAL SETTING

Regulatory Framework

State Regulations

Emergency Response/Evacuation Plans

Government Code Section 8607(a) directs the California Emergency Management Agency (formerly the Governor's Office of Emergency Services) to prepare a Standard Emergency Management System (SEMS) program, which sets forth measures by which a jurisdiction should handle emergency disasters. The program is intended to provide effective management of multi-agency and multijurisdictional emergencies in California. SEMS consists of five organizational levels, which are activated as necessary: (1) Field Response, (2) Local Government, (3) Operational Area, (4) Regional, and (5) State. Local governments must use SEMS to be eligible for funding of their response-related personnel costs under state disaster assistance programs. Butte County has adopted an Emergency Operations Plan that is consistent with the SEMS.

Local Regulations

Butte County General Plan 2030

The following policies are included in the existing General Plan regarding police protection. The numbering is from the existing General Plan and therefore may not be consecutive.

Land Use Element

- Goal LU-3 Create communities where there is a sense of well-being where families and neighbors can socialize, interact, and play.
    - LU-P3.4 The Butte County Sheriff's Office shall continue to support neighborhood watch programs, including programs in commercial areas, so that residents and visitors enjoy a safe and comfortable environment.

Circulation Element

- Goal CIR-9 Provide a circulation system that supports public safety.
    - CIR-P9.1 All new road systems, both public and private, shall provide for safe evacuation of residents and adequate access to fire and other emergency services by providing at least two means of emergency access to an interconnected collector system. New road systems will include reduction and maintenance of roadside vegetation.

Public Facilities and Services Element

- Goal PUB-3 Maintain a safe environment in Butte County through the enforcement of law.
    - PUB-P3.1 The County supports the expansion of volunteer services for law enforcement.
    - PUB-P3.2 The BCSO shall support citizen efforts to strengthen and expand neighborhood watch programs, including in commercial areas.

Upper Ridge Community Plan

The Butte County Board of Supervisors adopted the URCP on March 8, 2022. General Plan 2040 Policy LU-P15.2 states: this General Plan hereby incorporates by reference the policies and actions identified in the Upper Ridge Community Plan for the corresponding planning area. The following strategies are included in the existing URCP regarding fire protection services. The numbering is from the plan and therefore may not be consecutive.

Disaster Preparedness and Response Strategies

- **Strategy HS-2.1:** Develop a comprehensive emergency communications program and procedures for emergency events (e.g., fire, flood) and evacuation notifications to ensure residents and businesses on the Upper Ridge can respond adequately to hazardous events.

- Work with emergency responders and community members to use new satellite internet communications technology in the event that communication and cell towers are disrupted.
- Provide communications in languages appropriate to the demographics of the population living and working on the Upper Ridge, including English, American Sign Language, and Spanish.
- Review U.S. Census Bureau and California Department of Finance data every 5 years to identify languages and update communication techniques that are appropriate to the demographics of the population living and working on the Upper Ridge.
- Develop a dynamic evacuation guidance and direction system that is mobile device application-based with a connection to the phone alert system to provide real-time evacuation guidance based on road capacity and location of the hazard.

- **Strategy HS-2.3:** Develop an emergency preparedness education program for residents and visitors on the Upper Ridge to help them prepare for and respond to evacuations, Public Safety Power Shutoffs, and other hazardous events.
- **Strategy HS-2.4:** Upgrade existing assembly points to refuge areas and designate new refuge areas to create a set of equitably located areas that provide area space for residents and visitors to shelter when evacuation is not safe or possible during a hazardous event.
  - Develop refuge areas at locations distributed across the Upper Ridge such as Lake De Sabla, Cedarwood School, Magalia Center, Pine Ridge School, and Magalia Community Church. Refuge areas should include the following:
    - One or more structures constructed to current California Building Standards Code with fire-resistant materials and HVAC systems that prevent smoke from entering the building where people can shelter.
    - A large outdoor space cleared of flammable vegetation and materials.
    - Emergency signage designating the site as a refuge area during specific hazardous events.
    - Potable water sources.
  - Maintain facilities and structures in refuge areas, including vegetation management, to ensure these areas are protected from hazardous events.

Butte County Code of Ordinances

The Butte County Code of Ordinances includes the following provisions to ensure that police protection services are funded and provided to all parts of the county.

- Chapter 3, Development Impact Fees for Sheriff Facilities Vehicles and Equipment-Unincorporated Area. This provision of the code authorizes the levying of development impact fees for sheriff facilities, vehicles and equipment upon the owners of real property located in the unincorporated area of Butte County, adding or expanding one of more residential or

nonresidential units to such proport, in an amount sufficient to defray the cost of acquitting, developing or improving sheriff facilities, vehicles and equipment made necessary to serve the additional facilities, vehicles and equipment needs arising from an increase or change in the use of such property.

Existing Conditions

Law enforcement services in Butte County are provided by the Butte County Sheriff's Office, the California Highway Patrol, and police agencies in the Cities of Chico, Oroville, Gridley, and Biggs and the Town of Paradise.

Butte County Sheriff's Office

The Butte County Sheriff's Office (BCSO) is responsible for law enforcement, criminal investigation, and crime prevention in the unincorporated areas of the county. The BCSO operates the county jail and court security service. In addition to crime prevention and law enforcement services, the BCSO also functions as the County Coroner, and investigates suspicious, violent, accidental, and unattended deaths.

The BCSO is the county-wide coordinator for mutual-aid requests and responses. The BCSO operates a community service center in Chico, with a sub-station in Magalia. The county jail can house 614 inmates and has an average daily population of 580 inmates. The BCSO responds to approximately 49,000 calls for service per year and the dispatch center receives about 186,000 calls per year.

BCSO personnel include the Sheriff, Undersheriff, Deputy Sheriffs, Correction Deputies, Public Safety Dispatchers and clerical staff. BCSO's Operations Division oversees the Special Weapons and Tactics Team, the Bomb Squad, the K-9 Program, the Marine Enforcement Unit, the Air Operations Unit, the Crime Prevention Unit, , Search and Rescue, the Sheriff's Team of Active Residents in Service, and a number of other volunteer programs.

The BCSO has designated area deputies that serve the outlying areas of the county (Butte County 2020). Twenty-four-hour patrol service is provided. The patrol teams normally operate in response to specific incidents and have very limited time for non-directed patrol activities within the county.

California Highway Patrol

The California Highway Patrol (CHP) provides law enforcement services, primarily traffic control, for the state roads and roads in the unincorporated portions of the county. These services include traffic control, accident investigation, and licensing of vehicles. The CHP will respond when requested by the Sheriff.

The CHP has two offices to serve Butte County. The county is divided into north and south regions at the intersection of State Routes 99 and 149. The north district office, in Chico, has 27 uniformed staff, including 22 officers, 4 sergeants, and 1 commander. Typical staffing has three units during the day and evening shifts, and one two-person unit during the graveyard shift. The north district office is also the dispatch center for the region. The CHP's south office, in Oroville, has 21 officers, 3 sergeants, and 1 commander. The office has 13 vehicles in operation, with similar staffing as the north district office (Perry, pers. comm. 2021).

The normal deployment/distribution of CHP personnel is based on traffic volume and accident rates within the county. Areas with a high incidence of accidents or traffic control problems are patrolled on a regular basis. There are many areas of the county, particularly in the foothills, which are outside regular CHP patrols and visited only when called.

Municipal Police Departments

The BCSO maintains mutual-aid agreements with the Oroville, Chico, Gridley, Biggs, and Paradise municipal police departments. Municipal police departments are responsible for protecting the citizens and property within their jurisdictions.

Biggs Police Department

The City of Biggs has a contract with BCSO for police services. BCSO provides law enforcement officers 24 hours a day to the City of Biggs, in addition to public safety dispatch services, records management, evidence and property management, and criminal investigation services. Previously, the City of Biggs contracted with the City of Gridley Police Department to provide law enforcement services; that contract expired in 2020.

Gridley Police Department

The Gridley Police Department is responsible for protecting the citizens and property in the City of Gridley. The Department operates one police station. The Department provides a variety of support services to the City of Gridley, including patrol services, dispatch, animal control, and graffiti abatement. The City of Gridley provides 24-hour emergency service. The Department receives approximately 3,000 911 calls per year and 16,000 calls for service.

City of Chico Police Department

The City of Chico Police Department covers a district that is approximately 33 square miles and serves the residents in the City of Chico. The Department is staffed by 140 employees and 100 police volunteers. The Department provides a Patrol Section, Special Operations Sections, Crisis Negotiation, Special Weapons and Tactics (SWAT), a Traffic Unit, Downtown Bicycle Patrol, and Neighborhood Watch.

City of Oroville Police Department

The City of Oroville Police Department has 4 sergeants and 16 officers that protect the City of Oroville. The Department provides community patrol and parking enforcement for the city. The Department also has a School Resource Officer and K-9 Unit.

Town of Paradise Police Department

The Town of Paradise Police Department has 49 employees that serve the Town of Paradise. The Department includes an Administration Division, Patrol, Investigations, Communication and Records, and Animal Control.

5.15.2.2 STANDARDS OF SIGNIFICANCE

The proposed project would have a significant impact with regard to police services if it would:

- Result in substantial adverse physical impacts associated with the provision of new or physically altered police facilities or a need for new or physically altered police facilities, the construction of which could cause significant environmental impacts to maintain acceptable service ratios, response times, or other performance objectives.

5.15.2.3 PROPOSED GENERAL PLAN POLICIES

The following are relevant policies of the Butte County General Plan Update, which may reduce impacts to police protection services as a result of implementation of the proposed project.

Public Facilities and Services Element

- PUB-P1.1: Residents shall be educated about the realities of rural living and expectations regarding the availability of services and service response times in rural areas.
- PUB-P1.2: County facilities shall be designed, constructed and operated to be environmentally sustainable, and beneficial to the community and the region.
- PUB-P1.5: All service providers shall be offered appropriate opportunities to comment on pending development project applications.
- PUB-P3.1: The County supports the expansion of volunteer services for law enforcement.
- PUB-P3.2: The BCSO shall support citizen efforts to strengthen and expand neighborhood watch programs, including in commercial areas.

Area Plans Element

- D2N-4.10: Improve overall police protection by seeking resident deputies and/or reserve deputies and a future substation within the Planning Area.

Health and Safety Element

- HS-P16.4: Critical emergency response facilities such as fire, police, emergency service facilities, and utilities shall be sited to minimize their exposure to flooding, seismic effects, fire, or explosion.

Land Use Element

- LU-P9.1: The County shall work with municipalities and service providers to ensure that services are available for new development and consistent with master plans.
- LU-P14.2: New urban development shall be primarily located in or immediately adjoining already urbanized areas.

5.15.2.4 IMPACT DISCUSSION

This section analyzes the proposed project's potential impacts to police protection services.

PS-3	The proposed project would not result in the need for new or physically altered police facilities, the construction of which could cause significant environmental impacts to maintain acceptable service ratios, response times, or other performance objectives.

General Plan 2040

General Plan Update 2040 includes policies that support police services. Public Facilities and Services Element Policy PUB-P3.1 supports the expansion of volunteer services for law enforcement, and Policy PUB-P3.2 supports citizen efforts to strengthen and expand neighborhood watch programs, including in commercial areas. In addition, Land Use Element Policy LU-P9.1 directs the County to work with municipalities and service providers to ensure that services are available for new development and consistent with master plans.

As new development occurs, new or expanded police facilities may be needed to support the associated population growth. It is not known at this point when such facilities would be required or what the exact nature of these facilities would be. As a result, it cannot be determined what project-specific environmental impacts would occur from their construction and operation. The potential impacts would be identified during the facility planning process. However, General Plan 2040 requires that County facilities be designed, constructed, and operated to be environmentally sustainable and beneficial to the community and the region through Policy PUB-P1.2. As a result of the proposed policies, police services impacts would be less than significant.

Level of Significance Before Mitigation: PS-3 would be less than significant.

Mitigation Measures

No mitigation measures are required.

Upper Ridge Community Plan

As discussed in Chapter 3, *Project Description*, the URCP would increase development potential in the Upper Ridge community with 28 parcels redesignated from Retail and Office to Mixed-use land uses in the Old Magalia and Magalia Center neighborhoods. The Plan Area would primarily be served by the Magalia Substation of the BCSO on Skyway Boulevard in Magalia. Potential future development under the proposed project would add 1,915 additional residents to the Upper Ridge Community. This action may increase the need for police protection services in the Upper Ridge Area. However, should the construction or expansion of facilities to accommodate additional personnel or equipment become necessary, CEQA review and compliance with General Plan provisions would be required.

As described previously, the 2040 General Plan includes a number of policies that support police protection services. Public Facilities and Services Element Policy PUB-P3.1 supports the expansion of volunteer services for law enforcement, and Policy PUB-P3.2 supports citizen efforts to strengthen and expand neighborhood watch programs, including in commercial areas. In addition, Land Use Element Policy LU-P9.1 directs the County to work with municipalities and service providers to ensure that services are available for new development and consistent with master plans. Should new police protection facilities be required to service the Upper Ridge Plan Area, Public Facilities and Services Element Policy PUB-P1.2 would require County facilities to be designed, constructed, and operated to be environmentally sustainable, and beneficial to the community and the region. Policy PUB-P1.5 requires that all service providers shall be offered appropriate opportunities to comment on pending development project applications, which would further help to mitigate impacts to police protection services. Compliance with these policies would reduce impacts to police protection services in the URCP from future development and impacts would therefore be less than significant.

Level of Significance Before Mitigation: PS-3 would be less than significant.

Mitigation Measures

No mitigation measures are required.

5.15.2.5 CUMULATIVE IMPACTS

PS-4	The proposed project, in combination with past, present, and reasonably foreseeable projects, would not result in less-than-significant cumulative impacts with respect to police services.

Future regional growth would result in increased demand for police services throughout the region. Additionally, Butte County provides law enforcement services to neighboring jurisdictions via mutual-aid agreements and calls upon them for assistance. However, as Butte County would provide for additional police services within its own boundaries and would be required to address the potential environmental impacts of the development of additional or expanded police facilities, General Plan 2040 would have a less-than-significant cumulative impact related to police services.

Level of Significance Before Mitigation: PS-4 would be less than significant.

Mitigation Measures

No mitigation measures are required.

5.15.3 SCHOOLS

This section describes current conditions and potential impacts of the proposed General Plan 2040 with regard to schools in Butte County.

5.15.3.1 ENVIRONMENTAL SETTING

Regulatory Framework

State Regulations

Development Impact Fees/Senate Bill 50

Proposition 1A, the Kindergarten–University Public Education Facilities Bond Act of 1998, or Senate Bill (SB) 50, was approved by the voters in November 1998. SB 50 provides a comprehensive school facilities financing and reform program and enables a statewide bond issue to be placed on the ballot. Under the provisions of SB 50, school districts are authorized to collect fees to offset the costs associated with increasing school capacity as a result of development and related population increases. The funding goes to acquiring school sites, constructing new school facilities, and modernizing existing school facilities. SB 50 establishes a process for determining the amount of fees developers would be charged to mitigate the impact of development on school districts from increased enrollment. According to Section 65996 of the California Government Code, development fees authorized by SB 50 are deemed to be "full and complete school facilities mitigation."

Under this legislation, there are three levels of developer fees that may be imposed on new development by the governing school district. Level I fees are assessed based on the proposed square footage of residential, commercial/industrial, and/or parking structure uses. Level II fees require the developer to provide one-half of the costs of accommodating students in new schools, and the state provides the remaining half. To qualify for Level II fees, the governing board of the school district must adopt a School Facilities Needs Analysis and meet other prerequisites in accordance with Section 65995.6 of the California Government Code. Level III fees apply if the state runs out of bond funds, allowing the governing school district to impose 100 percent of the cost of school facility or mitigation on the developer, minus any local dedicated school monies.

Local Regulations

Butte County General Plan 2030

The following policies are included in the existing General Plan regarding school services. The numbering is from the existing General Plan and therefore may not be consecutive.

Land Use Element

- Goal LU-6: Provide adequate land for the development of public and quasi-public uses, as a means to provide necessary public services and facilities in support of existing and new residential, commercial, and industrial land uses.

- LU-P6.1 The County will encourage school districts and park and recreation districts to locate school sites and parks within or adjacent to existing or planned residential and mixed use neighborhoods.
- LU-P6.2 Specific Plans, Master Plans, Area Plans, Neighborhood Plans or Planned Unit Developments shall designate adequate, appropriately-located land for County, special district, and school district facilities.
- LU-P6.3 New County government buildings and other public and quasi-public uses, such as hospitals, meeting halls, and private schools, shall be located in existing urbanized areas in convenient, central locations that provide maximum access for the maximum number of residents.
- LU-P6.4 Development projects that provide lands for private open spaces, parks, community service facilities, such as places of worship and daycare facilities, and public facilities may be allowed to transfer density to other portions of the site.

Circulation Element

- Goal CIR-9 Provide a circulation system that supports public safety.
  - CIR-P9.1 All new road systems, both public and private, shall provide for safe evacuation of residents and adequate access to fire and other emergency services by providing at least two means of emergency access to an interconnected collector system. New road systems will include reduction and maintenance of roadside vegetation.
  - CIR-P9.2 New development projects shall include safe routes to school where appropriate.

Public Facilities and Services Element

- Goal PUB-4 Support high-quality schools and educational facilities for all Butte County residents.
  - PUB-P4.1 Review of development proposals shall be coordinated with school districts to determine and plan for capacity issues over time.
  - PUB-P4.2 Review of development proposals shall be coordinated with school districts regarding the location and design of new schools.
  - PUB-P4.3 Plans for future growth areas shall incorporate new school sites as appropriate.
  - PUB-P4.4 Infrastructure development projects shall be coordinated to minimize the cost to the public of building needed schools.
  - PUB-P4.5 Information on projected population growth and development patterns shall be provided to school districts to facilitate adequate school facilities.

- PUB-P4.6 School districts shall have the opportunity to review proposed residential developments and make recommendations about the need for additional facilities based on school-child projections, existing school capacity, access and traffic issues.
- PUB-P4.7 New development projects shall be approved only if the County and the applicable School District finds that existing or planned schools will be adequate to serve it.
- PUB-P4.8 Private school developers shall locate schools such that safe routes to school are possible, and shall construct those safe routes when constructing new roadways and sidewalks.

Upper Ridge Community Plan

The following policies are included in the existing URCP regarding school services. The numbering is from the plan and therefore may not be consecutive.

Hazards Reduction Strategies

- **Strategy HS-1.4:** Identify and support operation of equitably located and accessible cooling centers on extreme heat days and during heat waves.
  - Coordinate with the Upper Ridge Community Council and Paradise Unified School District to develop an outreach and education program about extreme heat for community members.
  - Work with community partners to establish cooling centers with air conditioning units at Lake De Sabla, the Magalia Community Center, Magalia Center (Lakeridge Circle area), and Magalia Community Church that open when temperatures exceed 95°F to provide a cooling space for community members to seek refuge during extreme heat days.
  - Coordinate with B-Line Butte Regional Transit to expand or alter bus services on extreme heat days to provide a shuttle service to cooling centers on the Upper Ridge.
  - Install water stations and shady outdoor spaces at existing and potential future recreational amenities including Lake De Sabla, Paradise Lake Picnic Area, Coutolenc Park, Magalia Community Park, Lakeridge Park, Magalia Church Park, and trailheads to the Upper Ridge Connector Trail, to provide water and refuge from extreme heat for community members and visitors.

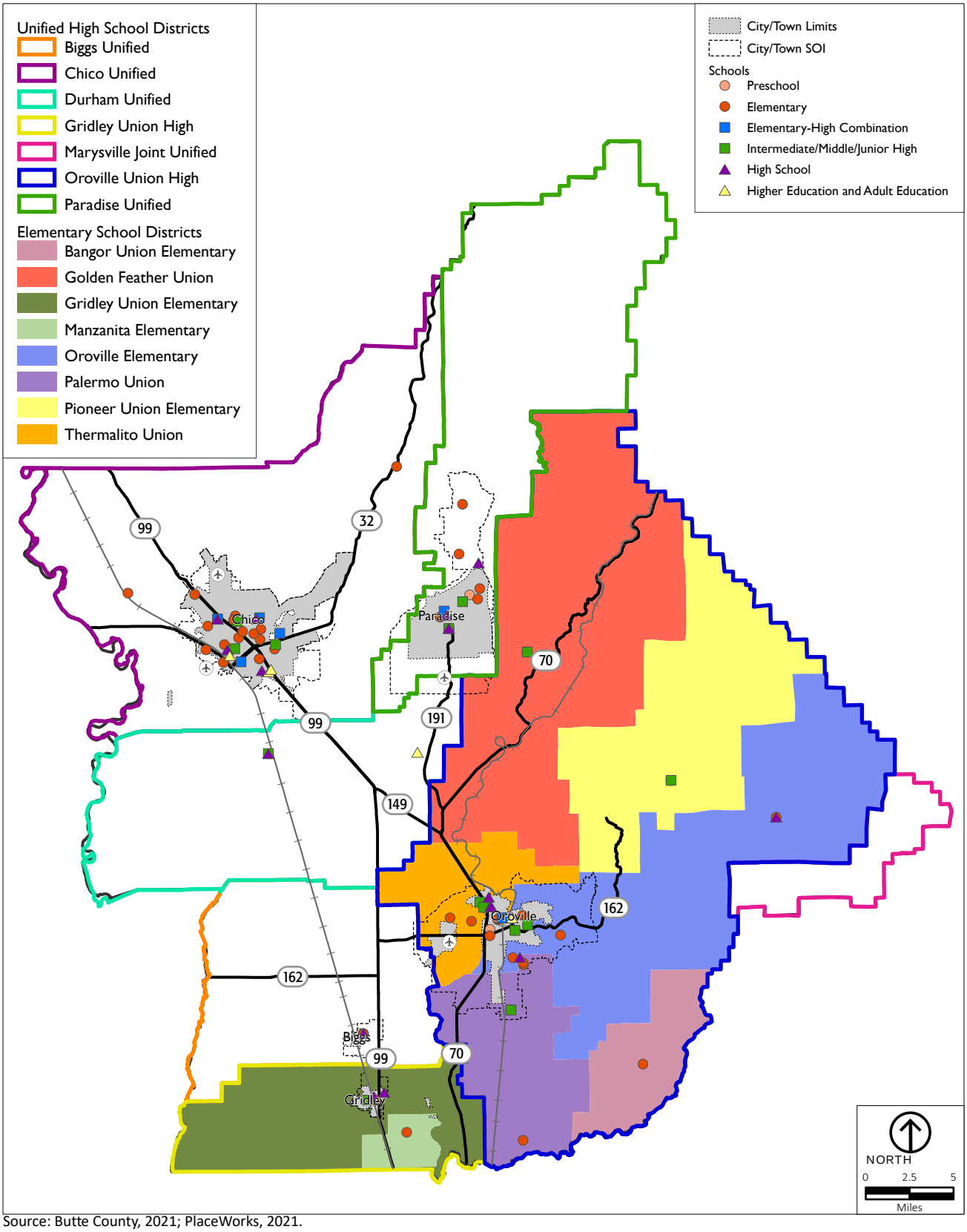
Existing Conditions

The following school districts serve Butte County and are shown on Figure 5.15-2, *School Districts*.

- Bangor Union Elementary School District
- Biggs Unified School District
- Chico Unified School District
- Durham Unified School District
- Golden Feather Union School District

- Gridley Unified School District
- Manzanita Elementary School District
- Oroville City Elementary School District
- Oroville Union High School District
- Palermo Union School District
- Paradise Unified School District
- Pioneer Union Elementary School District
- Thermalito Union Elementary School District

In addition to these listed school districts, a portion of the Marysville Joint Unified School District extends into Butte County, although it primarily serves residents of Yuba County. As shown on Figure 5.15-2, five of the districts (Biggs, Chico, Durham, Gridley, and Paradise) are unified school districts, providing elementary and secondary education. Seven districts (Bangor, Golden Feather, Manzanita, Oroville City, Palermo, Pioneer, and Thermalito) provide kindergarten through eighth grade education throughout the rest of the county, feeding students into Oroville Union High School District and Gridley Unified School District for secondary education.



Source: Butte County, 2021; PlaceWorks, 2021.

Figure 5.15-2
School Districts

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Bangor Union Elementary School District

The Bangor Union Elementary School District provides elementary education to the community of Bangor and the surrounding unincorporated county area south and east of Oroville. The District operates a single school, Bangor Elementary, ranging from kindergarten through eighth grade, and is approximately 40 square miles in area. The school had 103 students enrolled in the 2019-2020 school year (CDE 2021a). Following eighth grade, Bangor students attend school in the Oroville Union High School District.

The Bangor Elementary currently offers class sizes ranging from 14 to 23 students with one teacher and part-time aide assistant in each class. The school provides campus-wide Wi-Fi services, and, for upper grade students, iPads or Chromebooks are available. The school also has a fully equipped computer lab.

Biggs Unified School District

The Biggs Unified School District provides elementary and secondary education to the City of Biggs and surrounding unincorporated county areas. The District is approximately 135 square miles in area and operates six schools, with a combined total enrollment of 605 students in the 2019-2020 school year (CDE 2021b). The three schools that make up the District are:

- Biggs High School campus serves 196 students in grades ninth to twelfth. The high school was built in 1963 and has 17 classrooms, 2 science labs, 1 computer lab, a special education classroom, gym, and cafeteria/multipurpose room. Improvements to the high school last year include remodeled restrooms and installation of video cameras for security.
- Biggs Elementary School serves 376 students from kindergarten through sixth grade. Biggs Elementary School has 19 teachers, 1 school counselor, a Speech and Language Pathologist, 1 English Language Development Teacher, and support staff. The school was combined with Biggs Middle School in 2011 to provide kindergarten to eighth grade education. The school renovated their quad building, three classrooms, and five restrooms in the past year.
- Richvale Elementary School has a total enrollment of 33 students from first through sixth grade. The school has three classrooms and other facilities, including a full-sized gymnasium with a stage and a cafeteria. Recent facility improvements include installation of security cameras, safety signage, and replacement of classroom and gym doors. The District will be working to modernize each school site to ensure that the facilities remain in good repair.

Chico Unified School District

The Chico Unified School District provides elementary and secondary education to residents of the City of Chico and surrounding unincorporated areas. The District serves an area of approximately 322 square miles and operates 23 schools with a combined total enrollment of 14,442 students in the 2019-2020 school year. The District has 12 elementary schools with grades K-6 (Chapman, Citrus, Emma Wilson, Hooker Oak, Little Chico Creek, Marigold, McManus, Neal Dow, Parkview, Rosedale, Shasta, and Sierra View), 4 junior high schools with grades 6-8 (Bidwell, Chico, Marsh, and the Academy for Change), Chico Country Day School serves grades K-8, and 3 senior high schools with grades 9-12 (Chico, Pleasant Valley, and Fairview Continuation). The District also has four preschool programs, one online learning academy and independent study program, one community day school, and one special education services school.

The District has accommodated continued growth in enrollment by changing school boundaries, reusing existing facilities, modifying existing facilities, allowing intra-district student transfers, constructing new facilities, and using leased portable facilities. The District prepared a Facilities Master Plan in 2014 to address student population growth, technology needs, academic programs, access and code compliance, and maintenance. The Facilities Master Plan was updated in 2019 to address the impact of the 2018 Camp Fire as well as the need for additional capacity due to an increase in housing development. The goal of the plan is to maximize the use of District bond funds to benefit the facilities with the most need.

Durham Unified School District

The Durham Unified School District provides elementary and secondary education to 186 square miles that include Durham and the surrounding area. The District operates three schools, Durham Elementary School (grades K-5), Durham Intermediate School (grades 6-8), and Durham High School (grades 9-12), with a combined total enrollment of 1,053 students in the 2019-2020 academic year (CDE 2021c). The Durham Unified School District experienced its peak enrollment in 2000-2001, with 1,362 students.

On November 6, 2018, voters in Butte County approved a bond measure to allow funding for facility and equipment updates. Since then, the District has begun to replace roof heating, ventilation, and air conditioning (HVAC) units and complete other electrical and roofing upgrades to each school. In 2019, the District completed a Facilities Planning Assessment to evaluate the conditions of the District's school facilities. The assessment identified a cost estimate to modernize and upgrade the facilities, as well as potential funding sources.

Golden Feather Union Elementary School District

The Golden Feather Union Elementary School District provides elementary education to approximately 221 square miles of unincorporated county lands to the north and west of Lake Oroville. The District operates two elementary schools, Concow Elementary School (grades K-8) and Golden Feather Community Day School (grades K-8). The Concow Elementary School had a student enrollment of 53 students during the 2019-2020 school year (CDE 2021d). The Golden Feather Community Day School does not currently have any students enrolled. Following eighth grade, Golden Feather students attend school in the Oroville High School District.

According to the 2018-2019 School Accountability Report Card (SARC), the Concow Elementary School site needs new playground equipment and air conditioning units (CES 2019). The restroom stalls and drinking fountains also need upgrades.

Gridley Unified School District

The Gridley Unified School District offers elementary and secondary education to residents of Gridley and the surrounding areas. The District is approximately 87 square miles in size and operates McKinley Primary School (grades K-1), Wilson Intermediate Elementary School (grades 2-5), Sycamore Middle School (grades 6-8), Gridley High School (grades 9-12), and Esperanza Continuation High School (grades 11-12). The District's total combined student enrollment for the 2019-2020 school year was 2,087.

Gridley High School rents the Farmer's Hall from Butte County's fairgrounds to serve as a gym for the high school. Priority facility improvements for the high school include renovating the locker room areas and classrooms. In 2019, five portable classrooms were replaced and new landscaping was completed at Sycamore Middle School. New permanent buildings with six classrooms were constructed in 2018 at Wilson Elementary School. The Esperanza Continuation High School underwent a remodel recently that included installing new offices, fixing roof leaks, sealing floors, and repairing HVAC units. According to the 2020-2021 SARC, the classrooms at McKinley Primary School are below State square footage standards and only seven of the portable classrooms have running water (MPS 2019). The school's SARC does not identify plans to upgrade the classrooms to meet State standards.

Manzanita Elementary School District

The Manzanita Elementary School District provides elementary education to the residents of Gridley in the southern area of the city. The District covers approximately 11 square miles and operates a single school, Manzanita Elementary School, with a total student enrollment of 296 students in grades K-8 for the 2019-2020 school year (CDE 2021e). Following eighth grade, Manzanita students attend school in the Gridley Unified School District. According to the 2018-2019 SARC, the school's facilities are up to date (MES 2019).

Oroville City Elementary School District

The Oroville City Elementary School District offers elementary education to residents of Oroville and the unincorporated county areas east and south of the city. The District is approximately 78 square miles in size and operates one preschool, four elementary schools, and two middle schools, as follows:

- Sierra del Oro, Preschool
- Oakdale Heights Elementary School, K-5
- Ophir Elementary School, K-5
- Stanford Avenue Elementary School, K-5
- Wyandotte Academy School, K-5
- Central Middle School, 5-8
- Ishi Hills Middle School, 6-8

The seven schools have a combined student enrollment of 2,739 students in the 2019-2020 school year (CDE 2021e). Following eighth grade, students attend schools in the Oroville Union High School District. Ishi Hills Middle School is the only school that reported facility improvements per the school's most recent SARC. In 2017, a water line and valve were installed at Ishi Hills Middle School to provide water for sprinklers. The school is in the design stage for a new running track and pickle ball courts.

Oroville Union High School District

The Oroville Union High School District offers secondary education to a 723-square-mile area that includes Oroville and surrounding unincorporated county areas. The District operates two high schools, one continuation school, one adult education school, and one community day school, as follows:

- Las Plumas High School
- Oroville High School
- Prospect Continuation High School
- Oroville Adult Education Career and Technical Center
- Oroville Union High School District Community Day School

These schools had a combined enrollment of 2,237 students in the 2019-2020 school year (CDE 2021f). Oroville High School upgraded a number of their school facilities over the years. The high school has a new library, science wing, and industrial arts building. The old library was converted into a theater and performance arts center. The high school also has new softball and baseball fields. According to the 2019-2020 SARC, the high school only needs minor repairs (OHS 2020). Las Plumas High School has several classrooms that need minor improvements, including new ceiling tiles.

Palermo Union Elementary School District

The Palermo Union Elementary School District provides elementary education to approximately 67 square miles of unincorporated county territory to the south of Oroville. The District operates five schools: Helen Wilcox (grades K-4, Day Care Center), Golden Hills Elementary (grades 4-5), Honcut Elementary (grades K-3), Palermo Middle School (grades 6-8), Palermo Union Community Day School (grades K-8).

The District had a combined student enrollment of 1,334 for the 2019-2020 school year (CDE 2021g). Following eighth grade, Palermo students attend school in the Oroville High School District.

As a result of overcrowding in the Palermo and Helen Wilcox schools, the District built the Golden Hills Elementary School in 2006. The school provides 12 classrooms, a multipurpose room, library, and an administration building. Palermo Middle School maintenance improvement projects for the 2020-2021 school year include installation of hand sanitizers and hand washing stations, installation of a school doorbell, and new locked entrance to control on-site traffic (Palermo Schools 2020). Facility improvements for the other schools were not identified in the schools' SARC.

Paradise Unified School District

The Paradise Unified School District provides elementary and secondary education to a 220-square-mile area that includes Paradise and unincorporated areas north to Tehama and Plumas Counties. The District operates 12 schools and programs as follows:

- Cedarwood Elementary School, grades K-6
- Pine Ridge School, grades K-6
- Paradise Ridge Elementary School, grades K-6
- Ponderosa Elementary, grades K-5 (currently closed as a result of the 2018 Camp Fire)
- Paradise Intermediate School, grades 7-8 (currently operating at Paradise High School as a result of the 2018 Camp Fire)

- Paradise High School, grades 9-12
- Ridgeview High School, grades 10-12
- Paradise eLearning Academy, grades 9-12
- Honey Run Academy, grades 7-12 (currently closed as a result of the 2018 Camp Fire)
- Cedarwood Children's Center, Preschool
- Pine Ridge, Preschool
- Pearson Center, Post-Secondary Special Education

District enrollment in 2019-2020 was approximately 2,222 (CDE 2021h). Enrollment in the District has declined as a result of the 2018 Camp Fire. On April 21, 2020, the District revised the Facilities Master Plan to identify priority improvements for school facilities damaged by the fire. The plan shows the layout for the new Ridgeview High School and location of improvements for other schools. Phase 1 improvements include building a new continuation high school (Ridgeview High School), building a new transportation and food service facility, rebuilding Paradise High School, and building a new multipurpose room and administration building at Ponderosa. Phase 2 improvements include modernizing classrooms, demolishing portables, and replacing them with permanent facilities, and adding new science, technology, engineering, the arts and mathematics (STEAM) classroom buildings at several schools. Other upgrades include new fencing, painting, and a stadium remodel at Paradise High School (CDE 2021h).

Pioneer Union Elementary School District

The Pioneer Union Elementary School District operates Berry Creek Elementary School and provides elementary education to the residents of the communities of Berry Creek, Brush Creek, and surrounding areas to the north and east of Lake Oroville. The District is approximately 129 square miles in area.

Berry Creek Elementary School had 56 students in grades K-8 during the 2019-2020 school year (PUSD 2020). The Berry Creek Elementary and Pioneer Union Elementary School District facilities were destroyed during the 2020 North Complex Fire. The District is currently working with their insurance and Federal Emergency Management Agency (FEMA) to rebuild.

Thermalito Union Elementary School District

The Thermalito Union Elementary School District provides elementary education to the community of Thermalito and surrounding county areas to the west of Oroville. Combined enrollment in District schools was 1,550 students in 2019-2020 (CDE 2021i). The District has a large population of students who do not speak English as a first language and operates a number of special programs to serve the needs of these students. Following eighth grade, Thermalito students attend school in the Oroville Union High School District.

The District operates four conventional schools, one day school, and a home study and after-school program (TUESD 2021). Each conventional school is listed below:

- Poplar Avenue School, grades K-5
- Sierra Avenue School, grades K-5
- Plumas Avenue School, grades K-5
- Nelson Avenue Middle School, grades 6-8

Several facility upgrades were completed over the past years at Plumas Elementary School. The school was repainted, several classrooms were recarpeted and retiled, iron fence gates were installed, the front parking lot was extended, and a new playground was installed. In 2020, the school received siding material to apply on the outer classroom walls. Poplar Avenue Elementary School installed a new playground in 2018. No further upgrades or improvements were identified for schools in the District in the SARC.

5.15.3.2 STANDARDS OF SIGNIFICANCE

The proposed project would have a significant impact with regard to schools if it would:

- Result in substantial adverse physical impacts associated with the provision of new or physically altered school facilities, or result in the need for new or physically altered school facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives.

5.15.3.3 PROPOSED GENERAL PLAN POLICIES

The following are relevant policies of the Butte County General Plan Update, which may reduce impacts to school services as a result of implementation of the proposed project.

Public Facilities and Services Element

- **PUB-P4.1:** Review of development proposals shall be coordinated with school districts to determine and plan for capacity issues over time.
- **PUB-P4.2:** Review of development proposals shall be coordinated with school districts regarding the location and design of new schools.
- **PUB-P4.3:** Plans for future growth areas shall incorporate new school sites as appropriate.
- **PUB-P4.4:** Infrastructure development projects shall be coordinated to minimize the cost to the public of building needed schools.
- **PUB-P4.5:** Information on projected population growth and development patterns shall be provided to school districts to facilitate adequate school facilities.
- **PUB-4.6:** School districts shall have the opportunity to review proposed residential developments and make recommendations about the need for additional facilities based on school-child projections, existing school capacity, access and traffic issues.

- **PUB-P4.7:** New development projects shall be approved only if the County and the applicable School District finds that existing or planned schools will be adequate to serve it.
- **PUB-P4.8:** Private school developers shall locate schools such that safe routes to school are possible and shall construct those safe routes when constructing new roadways and sidewalks.
- **PUB-7.1:** The County shall coordinate with municipalities, park and recreation districts, and school districts to plan and develop additional regional and community parks, support and coordinate park master plans, coordinate financing for recreation and park facilities, and plan for the distribution of federal and State funds for recreation and park programs and facilities.

Area Plans Element

- **D2N-P1.9:** An east-west interlink between Durham-Dayton Highway and the Midway shall be adopted prior to any subdivision approvals for property located north of the school, In addition, a north-south route shall be considered as part of the circulation system to the area north of the school.
- **D2N-P4.6:** Coordinate growth with the ability of the Durham Unified School District's to service and provide facilities.

Environmental Justice Element

- **EJ-P7.1:** The County supports schools, training programs, and other institutions whose mission is to enhance local workforce skills, prioritizing residents in Communities of Opportunity.

Land Use Element

- **LU-P6.1:** The County will encourage school districts and park and recreation districts to locate school sites and parks within or adjacent to existing or planned residential and mixed use neighborhoods.
- **LU-P6.2:** Specific Plans, Master Plans, Area Plans, Neighborhood Plans, or Planned Unit Developments shall designate adequate, appropriately-located land for County, special district, and school district facilities.
- **LU-P6.3:** New County government buildings and other public and quasi-public uses, such as hospitals, meeting halls, and private schools, shall be in existing urbanized areas in convenient, central locations that provide maximum access for the maximum number of residents.
- **LU-P12.4:** The County shall coordinate planning efforts with those of special districts and school districts.

5.15.3.4 IMPACT DISCUSSION

PS-5	The proposed project would not result in the need for new or physically altered school facilities, the construction of which could cause significant environmental impacts to maintain acceptable service ratios or other performance objectives.

General Plan 2040

Population growth foreseeable under General Plan 2040 could cause the need for new or expanded facilities, staff, or infrastructure within the Butte County's school districts. An estimated 617 new K-12 students[1] are expected to be added to the unincorporated County over the buildout period of the General Plan and attend schools in the county. The location of new and expanded facilities to serve additional students in Butte County is not known at this time. As a result, it cannot be determined what project-specific environmental impacts would occur from their construction and operation. These potential impacts would be identified during the facility site selection process.

Discussed in greater detail below under "Upper Ridge Community Plan," the 2040 General Plan Update would result in changes to the designations of 28 parcels in the unincorporated community of Magalia. This action would allow for increased residential development and would likely increase the demand on schools in the area.

However, existing regulations such as California Government Code Sections 65995 (h) and 65996 (b) provide mitigation for impacts to school facilities. Such mitigation measures include fees, charges, or requirements levied against construction, pursuant to Section 17620 of the Education Code.

In addition, General Plan 2040 contains a number of policies that provide for adequate public school facilities to meet future demand. In particular, Public Facilities and Services Element Policy PUB-P4.7 requires that new development be approved only if the County and the applicable school district finds that existing or planned schools will be adequate to serve it. In addition, Policies PUB-P4.1 and PUB-P4.2 require that the review of development proposals be coordinated with school districts to determine and plan for capacity issues over time, and to decide on the location and design of new schools. Policy PUB-P4.3 requires that plans for future growth areas incorporate new school sites as appropriate. Policy PUB-P4.5 requires that the County provide information about projected population growth and development patterns to school districts to ensure adequate school facilities. Finally, Policy PUB-P4.6 requires that school districts have the opportunity to review proposed residential developments and make recommendations about the need for additional facilities based on school-child projections, existing school capacity, access, and traffic issues.

[1] See Appendix 3-2 for more details about the expected General Plan 2040 buildout population.

As a result of the proposed policies, and consistent with State law on the determination of impacts to school facilities, school impacts would be less than significant.

Level of Significance Before Mitigation: PS-5 would be less than significant.

Mitigation Measures

No mitigation measures are required.

Upper Ridge Community Plan

As discussed in Chapter 3, *Project Description,* the URCP would increase development potential in the Upper Ridge community with 28 parcels redesignated from Retail and Office to Mixed-use land uses in the Old Magalia and Magalia Center neighborhoods. Potential future development under the proposed project would add additional residents to the Upper Ridge Community. The schools serving the Upper Ridge Community are Pine Ridge and Cedarwood Elementary as well as Paradise Junior School and Ridgeview High School, which are part of the Paradise Unified School District (PUSD).

According to an Initial Study prepared for the Town of Paradise Housing and Safety Elements Update, due to the 2018 Camp Fire, multiple PUSD school sites are undergoing improvements, supported by local Measure Y, which will expand and improve the current school infrastructure. There are presently adequate buses for each school site. PUSD has approved a Facilities Master Plan Update, which was revised in 2020 following the Camp Fire. Phase One of this plan, which involves renovation of the existing high school and the addition of another high school, is expected to begin in 2023. PUSD currently has extra capacity and based on the Facilities Master Plan, has the ability to accommodate future population (Town of Paradise 2022). The URCP would add an estimated 1,915 residents to PUSD, some of which will likely attend the schools mentioned above.

However, as outlined under the discussion of the 2040 General Plan Update, a number of policies in the 2040 General Plan require the County to ensure that adequate school facilities are provided and help reduce impacts to school districts. Public Facilities and Services Element Policy PUB-P4.7 requires that new development be approved only if the County and the applicable school district finds that existing or planned schools will be adequate to serve it. In addition, Policies PUB-P4.1 and PUB-P4.2 require that the review of development proposals be coordinated with school districts to determine and plan for capacity issues over time, and to decide on the location and design of new schools. Policy PUB-P4.3 requires that plans for future growth areas incorporate new school sites as appropriate. Policy PUB-P4.5 requires that the County provide information about projected population growth and development patterns to school districts to ensure adequate school facilities. Finally, Policy PUB-P4.6 requires that school districts have the opportunity to review proposed residential developments and make recommendations about the need for additional facilities based on school-child projections, existing school capacity, access, and traffic issues.

As a result of the proposed policies, and consistent with State law on the determination of impacts to school facilities, school impacts would be less than significant.

Level of Significance Before Mitigation: PS-5 would be less than significant.

Mitigation Measures

No mitigation measures are required.

5.15.3.5 CUMULATIVE IMPACTS

PS-6	The proposed project, in combination with past, present, and reasonably foreseeable projects, would result in less-than-significant cumulative impacts with respect to school services.

Future regional growth would result in increased demand for additional school facilities within the region, including for new school facilities outside of the county limits. For some Butte County school districts, population growth within the incorporated municipalities would further contribute to the need for new or expanded facilities. However, as with the project-level analysis, it is unknown exactly where these new school facilities and expansions would occur to support the cumulative increase in population. As specific school expansion or improvement projects are identified, additional project-specific, environmental analysis would be completed. As a result, cumulative impacts to schools would be considered less than significant.

Level of Significance Before Mitigation: PS-6 would be less than significant.

Mitigation Measures

No mitigation measures are required.

5.15.4 LIBRARIES

This section describes current conditions and potential impacts of the proposed General Plan 2040 with regard to library services in Butte County.

5.15.4.1 ENVIRONMENTAL SETTING

Regulatory Framework

Local Regulations

Butte County General Plan 2030

The following policies are included in the existing General Plan regarding library services. The numbering is from the existing General Plan and therefore may not be consecutive.

Public Facilities and Services Element

- Goal PUB-5 Provide library services to meet the informational and social needs of each community.
    - PUB-P5.1 Funding of library operations should be maintained or expanded as the budget allows.

Butte County Code of Ordinances

The Butte County Code of Ordinances includes the following provisions to ensure that library services are funded and provided to all parts of the county.

- Chapter 3, Article XVIII, Development Impact Fees for Library Facilities- Countywide. This provision authorizes the levying library facilities and equipment fees upon the owners of real property located in the unincorporated and incorporated area of Butte County, adding or expanding one (1) or more residential units to such property, in an amount sufficient to defray the cost of acquiring, developing or improving library facilities made necessary to serve the additional library needs arising from an increase or change in the use of such property.

Existing Conditions

The Butte County Library has served as an important cultural and educational resource for the people of Butte County for nearly a century. The Butte County Library provides library services to all county residents through a consolidated operation from its main library in Oroville and branches in Biggs, Chico, Durham, Gridley, and Paradise. Libraries are in the following locations:

- Oroville Branch Library, 1820 Mitchell Avenue, Oroville
- Biggs Branch Library, 464A B Street, Biggs
- Chico Branch Library, 1108 Sherman Avenue, Chico
- Durham Branch Library, 2545 Durham-Dayton Highway
- Gridley Branch Library, 299 Spruce Street, Gridley
- Paradise Branch Library, 5922 Clark Road, Paradise

In its branches, the library houses a collection of over 190,177 items, including books, videos, DVDs, music CDs, and books on tape and CD, most of which are available for checkout by library cardholders. In addition, Butte County Library offers access to digital collections, including e-books, audiobooks, e-magazines, movies, and an online database to assist with research and homework. The library is a member of the North State Cooperative Library System and the Northnet Library System, which is aimed at providing a consolidated network of public and academic libraries that pool resources for interlibrary loan service, access to specialized reference services, and cooperative planning for regional service.

Butte County Library branches also provide children's story time programs, book discussion groups for adults, film screenings, and other entertaining and educational programs. Free public meeting rooms are available in most branches, and the library provides free public access to the Internet and word processing programs at each location through its network of public computers. In fiscal year 2019-2020, the library provided library services to over 299,000 visitors and checked out over 311,000 items.

5.15.4.2 STANDARDS OF SIGNIFICANCE

The proposed project would have a significant impact with regard to library services if it would:

- Result in substantial adverse physical impacts associated with the provision of new or physically altered library facilities, or result in the need for new or physically altered library facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives.

5.15.4.3 PROPOSED GENERAL PLAN POLICIES

The following are relevant policies of the Butte County General Plan Update, which may reduce impacts to library services as a result of implementation of the proposed project.

Public Facilities and Services Element

- **PUB-P1.2:** County facilities shall be designed, constructed and operated to be environmentally sustainable, and beneficial to the community and the region.
- **PUB-P5.1:** Funding of library operations should be maintained or expanded as the budget allows.

Area Plans Element

- **D2N-P4.5:** Ensure the ongoing operation and funding of the Durham Fire Station and library services provided by the County.

5.15.4.4 IMPACT DISCUSSION

PS-7	The proposed project would not result in the need for new or physically altered public facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios or other performance objectives.

General Plan 2040

The proposed General Plan 2040 would result in an increase in population and, thus, library usage in Butte County. New or expanded library facilities could be needed to serve new development allowed by General Plan 2040. However, the location of new and expanded library services is not known at this time. As a result, it cannot be determined what project-specific environmental impacts would occur from their construction and operation. These potential impacts would be identified during the facility site selection process. In addition, General Plan 2040 requires that County facilities be designed, constructed, and operated to be environmentally sustainable and beneficial to the community and the region through Public Facilities and Services Element Policy PUB-P1.2.

General Plan 2040 also includes policies and actions that seek to ensure that adequate services and facilities are funded to meet increasing demand. Public Facilities and Services Element PUB-P5.1 directs that the County's library operations funding be maintained or expanded. Action PUB-A5.1 directs the County to identify opportunities to partner with municipalities, other agencies, and library support

organizations in providing library facilities and services, and Action PUB-A5.2 directs the County to pursue joint-use agreements with schools, universities, colleges, social service agencies, cultural institutions, andother organizations in communities to provide services where County library facilities are infeasible. As a result of the proposed policies, library service impacts would be less than significant.

Level of Significance Before Mitigation: PS-7 would be less than significant.

Mitigation Measures

No mitigation measures are required.

Upper Ridge Community Plan

As discussed in Chapter 3, *Project Description*, the URCP would increase development potential in the Upper Ridge community with 28 parcels redesignated from Retail and Office to Mixed-use land uses in the Old Magalia and Magalia Center neighborhoods. The Plan Area would primarily be served by the Butte County Library, Paradise Branch, on Clark Road in Paradise. Potential future development under the proposed project would add 1,915 additional residents to the Upper Ridge Community. This action may increase the need for library services in the Upper Ridge Area. However, should the construction or expansion of facilities to accommodate additional personnel or equipment become necessary, CEQA review and compliance with General Plan provisions would be required.

As discussed previously, General Plan 2040 includes policies and actions that seek to ensure that adequate services and facilities are funded to meet increasing demand. These include Public Facilities and Services Element Policies PUB-P1.2 and PUB-P5.1, in addition to Actions PUB-A5.1 and PUB-P5.2. As a result of the proposed policies, library service impacts would be less than significant.

Level of Significance Before Mitigation: PS-7 would be less than significant.

Mitigation Measures

No mitigation measures are required.

5.15.4.5 CUMULATIVE IMPACTS

PS-8	The proposed project, in combination with past, present, and reasonably foreseeable projects, would result in less-than-significant cumulative impacts with respect to the construction of other public facilities.

Future regional growth would result in increased demand for library facilities throughout the region. As a result, neighboring jurisdictions would also most likely need to expand library facilities to meet the increased demand. However, as with the project-level analysis, it is unknown exactly where these new library facilities and expansions would occur to support the cumulative increase in population. As specific library expansion or improvement projects are identified, additional project-specific, environmental analysis would be completed. As a result, a less-than-significant cumulative impacts associated with libraries would occur.

Level of Significance Before Mitigation: PS-8 would be less than significant.

Mitigation Measures

No mitigation measures are required.

5.15.5 PARKS AND RECREATION FACILITIES

This section describes current conditions and potential impacts of the proposed General Plan 2040 with regard to parks and recreation in Butte County.

5.15.5.1 ENVIRONMENTAL SETTING

Regulatory Framework

State Regulations

Quimby Act

The Quimby Act, also known as Government Code Section 66477, Subdivision Map Act, was established in 1965 and provides provisions in the State Subdivision Map Act for the dedication of parkland and/or payment of in-lieu fees as a condition of approval of certain types of residential projects. Previously, a city or county could only use these fees to provide parks that served the developer's proposed subdivision. However, Assembly Bill 1359 (AB 1359), signed in 2013, allows cities and counties to use developer-paid Quimby Act fees to provide parks in neighborhoods other than the one in which the developer's subdivision is located. Overall, AB 1359 provides cities and counties with opportunities to improve parks and create new parks in areas that would not have benefited before. It also allows a city or county to enter a joint/shared-use agreement with one or more public districts to provide additional park and recreational access.

Mello-Roos Community Facilities Act

This law allows any county, city, special district, school district, or joint-powers authority to establish a Mello-Roos Community Facilities District (CFD) that can finance parks, cultural facilities, libraries, schools, fire and police protection, streets, sewer systems, and other basic infrastructure. By law, the CFD is also entitled to recover expenses needed to form the CFD and administer the annual special taxes and bonded debt.

Mitigation Fee Act

The Mitigation Fee Act allows cities to establish fees that will be imposed on development projects to mitigate the impact on the jurisdiction's ability to provide specified public facilities to serve proposed development projects. To comply with the Mitigation Fee Act, a jurisdiction must follow four requirements: (1) Make certain determinations regarding the purpose and use of a fee and establish a

nexus or connection between a development project or class of project and the public improvement being financed with the fee; (2) Segregate fee revenue from the general fund to avoid commingling of capital facilities fees and general funds; (3) For fees that have been in the possession of the jurisdiction for five years or more and for which the dollars have not been spent or committed to a project, the jurisdiction must make findings each fiscal year describing the continuing need for the money; and (4) Refund any fees with interest for which the findings noted above cannot be made.

Local Regulations

Butte County General Plan 2030

The following policies are included in the existing General Plan regarding parks and recreation facilities and services. The numbering is from the existing General Plan and therefore may not be consecutive.

Land Use Element

- Goal LU-3 Create communities where there is a sense of well-being where families and neighbors can socialize, interact, and play.
    - LU-P3.2 Newly-developed neighborhoods shall include parks and recreation facilities. Sidewalks, bike paths, and other routes shall provide circulation to surrounding areas.
- Goal LU-6 Provide adequate land for the development of public and quasi-public uses, as a means to provide necessary public services and facilities in support of existing and new residential, commercial, and industrial land uses.
    - LU-P6.1 The County will encourage school districts and park and recreation districts to locate school sites and parks within or adjacent to existing or planned residential and mixed use neighborhoods.
    - LU-P6.4 Development projects that provide lands for private open spaces, parks, community service facilities, such as places of worship and daycare facilities, and public facilities may be allowed to transfer density to other portions of the site.

Economic Development Element

- Goal ED-1 Improve the local economy by diversifying the economy, reducing the unemployment rate, increasing business revenues to the County, and increasing wages.
    - ED-P1.3 The County shall encourage a full range of recreational and tourism uses at Oroville Dam and Lake.

Circulation Element

- Goal CIR-3 Design new neighborhoods, and improve existing neighborhoods, to accommodate and promote alternative modes of transportation.
    - CIR-P3.2 A safe, continuous, integrated and accessible pedestrian network shall be provided in urbanized areas, so as to encourage walking as a viable transportation mode and as a form of recreation and exercise.

- CIR-P3.5 New development projects shall consider providing adequate pedestrian, bicycle and multi-use facilities in a way that integrates circulation and recreational use.
- CIR-P3.6 New neighborhoods shall provide bike and pedestrian connectivity between streets.
- CIR-P3.9 Public facilities shall be located and designed to allow for convenient access from public transit and/or bicycle and pedestrian facilities.
- Goal CIR-5 Provide a safe, continuous, integrated and accessible bicycle system, so as to encourage the use of the bicycle as a viable transportation mode and as a form of recreation and exercise.
- CIR-P5.1 Bicycle facilities shall be developed in accordance with the County's adopted Bicycle Master Plan.
- CIR-P5.2 New bicycle routes and paths shall create a safe bicycle environment.
- CIR-P5.3 The bicycle system shall be integrated with other transportation modes by connecting bicycle routes and transit stops, providing secure bicycle parking facilities and supporting efforts to expand accommodation of bicycles aboard buses.
- CIR-P5.4 Transportation service providers shall be encouraged to incorporate bicycle storage facilities into bus stops and rail stations.
- CIR-P5.5 Construction or expansion of major arterials shall incorporate Class II bicycle facilities whenever feasible. Class III Bike routes will be considered where appropriate.
- CIR-P5.6 Residential development projects shall incorporate internal circulation networks that encourage bicycle use and that connect to the external bicycle circulation system.
- CIR-P5.7 Owners of apartment complexes and major commercial, office, industrial and educational sites shall provide safe, plentiful and centrally located bicycle parking facilities.
- CIR-P5.8 All County facilities and park-and-ride lots shall provide appropriate bicycle amenities, including bicycle racks and storage facilities.

Public Facilities and Services Element

- Goal PUB-6 Support a comprehensive and high-quality system of recreational open space and facilities.
  - PUB-P6.1 Review of development proposals shall be coordinated with public agencies in order to designate sites for new parks and recreation facilities.
  - PUB-P6.2 National recreation events, such as marathons, bicycle races, birdwatching events, rodeos or fishing tournaments, shall be encouraged in Butte County, provided that the event pays for all necessary public services.

- PUB-P6.3 New residential development shall be assessed for Quimby Act fees to support park development in coordination with parks and recreation districts.
- PUB-P6.4 Allowed densities shall be increased when parks are incorporated into development projects. Parks must meet standards set in district master plans.
- PUB-P6.5 Where appropriate, new residential developments should include permanently-protected and maintained open space using mechanisms such as, but not limited to, conservation easements and development agreements.
- PUB-P6.6 Utilize Community Facilities Districts, Mello-Roos and/or landscaping and lighting districts to provide funding for on-going maintenance and operation of parks and recreation facilities in medium density (six dwelling units per acre) and higher density residential developments when warranted.

- Goal PUB-7 Encourage local, regional and State parks providers to engage in coordinated and cooperative planning efforts.
  - PUB-P7.1 The County shall coordinate with the municipalities, park and recreation districts, and school districts to plan and develop additional regional and community parks, support and coordinate park master plans, coordinate financing for recreation and park facilities, and plan for the distribution of federal and State funds for recreation and park programs and facilities.
  - PUB-P7.2 Implementation and development of recreation and park facilities within park and recreation district boundaries shall be consistent with the applicable district's master plans.
- Goal PUB-8 Coordinate an interconnected multi-use trail system.
  - PUB-P8.1 The County shall coordinate with the municipalities and park and recreation districts to connect trails between incorporated and unincorporated regions of Butte County.
  - PUB-P8.2 The County shall coordinate with local jurisdictions, Lassen and Plumas National Forests, the Department of Water Resources and the Department of Fish and Game to designate additional shared use trails along unpaved County roads, access roads and fire roads.
  - PUB-P8.3 The development of abandoned railroad rights-of-way, levee tops, utility easements and waterways for new multi-use trails shall be pursued where appropriate.
  - PUB-P8.4 The County supports development of additional equestrian trails, including safe routes along roads.
  - PUB-P8.5 The County supports development of additional off-road vehicle trails.
  - PUB-P8.6 The County supports acquisition of appropriate and adequate funding for the creation and on-going maintenance of trails.

- PUB-P8.7 New development projects should incorporate multi-use trails and connections to existing trail networks.

Butte County Code of Ordinances

The Butte County Code of Ordinances includes the following provisions to ensure that parks and recreation services are funded and provided to all parts of the county.

- Chapter 16, Parks and Recreation. This provision of the code authorizes the levying of a parks and recreation facilities fee on any owner of real property that is adding one or more dwelling units to such property in the unincorporated area of the County of Butte. Said fee is to be in an amount determined necessary to fund the acquisition and development of park facilities required to serve the cumulative recreational needs of those persons residing in such dwelling units. Such fees apply in the Chico Urban Area, Durham Recreation and Parks District, Feather River Recreation and Parks District, and Paradise Recreation and Parks District.

Upper Ridge Community Plan

The Butte County Board of Supervisors adopted the URCP on March 8, 2022. General Plan 2040 Policy LU-P15.2 states: this General Plan hereby incorporates by reference the policies and actions identified in the URCP for the corresponding planning area. The following strategies are included in the existing URCP regarding parks and recreation services. The numbering is from the plan and therefore may not be consecutive.

Magalia Center Strategies

- **Strategy MC-1.1:** Seek ways to fund and implement the creation of a public gathering space at Magalia Center. Explore the feasibility of a community garden associated with the gathering space.
- **Strategy MC-1.2:** Develop an organization to oversee programming of community events at Magalia Center. Community events could include seasonal events, such as a pumpkin patch or Christmas tree lighting; ongoing events like a farmers' market; and special events like 5K races.
- **Strategy MC-1.3:** Seek funding to renovate and enhance the existing promenade walkway to connect community gathering space, serve existing businesses, and attract new commercial development.
- **Strategy MC-1.4:** Explore the possibility of creating one-time or ongoing food truck festival events in the Magalia Center area, that would highlight food vendors from Butte County.
- **Strategy MC-1.5:** Ensure that the existing Magalia Community Center and Park on South Park Drive is a part of future planning and development at Magalia Center. Physical connections from Magalia Center to the Magalia Community Center and Park should be safe, convenient, and clearly marked. Programming of events at both locations should be coordinated.

Park and Recreation Enhancements

- **Strategy PUB-1.1:** Provide restrooms at all park and recreational facilities, where feasible.

- **Strategy PUB-1.2:** Explore the use of Joint Use Agreements to allow community use of school recreational facilities.
- **Strategy PUB-1.3:** Ensure regular maintenance of parks and both public and private open spaces.
- **Strategy PUB-1.4:** Designated access points, trails, parks and open spaces should be inviting and safe for all visitors to enjoy.
- **Strategy PUB-1.5:** Serve the recreational needs of the Upper Ridge by providing a coordinated set of community park and recreational assets at three sites in the central Magalia area, each with its own set of complementary yet unique uses:
    - Make Lakeridge Park a local and regional recreational resource with a large variety of active and passive amenities.
    - Support Magalia Community Center and Magalia Community Park as a cultural, social, informational, and recreational hub.
    - Support the Magalia Community Church to provide community-serving outdoor recreational amenities.
- **Strategy PUB-1.6:** Designate and maintain refuge areas at certain parks and open spaces to provide areas for residents and visitors to shelter when evacuation is not safe or possible during a hazardous event. Maintain fire breaks and perform regular vegetation management at park locations.

Hazards Reduction Strategies

- **Strategy HS-1.4:** Identify and support operation of equitably located and accessible cooling centers on extreme heat days and during heat waves.
    - Coordinate with the Upper Ridge Community Council and Paradise Unified School District to develop an outreach and education program about extreme heat for community members.
    - Work with community partners to establish cooling centers with air conditioning units at Lake De Sabla, the Magalia Community Center, Magalia Center (Lakeridge Circle area), and Magalia Community Church that open when temperatures exceed 95°F to provide a cooling space for community members to seek refuge during extreme heat days.
    - Coordinate with B-Line Butte Regional Transit to expand or alter bus services on extreme heat days to provide a shuttle service to cooling centers on the Upper Ridge.
    - Install water stations and shady outdoor spaces at existing and potential future recreational amenities including Lake De Sabla, Paradise Lake Picnic Area, Coutolenc Park, Magalia Community Park, Lakeridge Park, Magalia Church Park, and trailheads to the Upper Ridge Connector Trail, to provide water and refuge from extreme heat for community members and visitors.

Existing Conditions

A wide range of recreational facilities and recreational programs are found in Butte County, offering numerous recreational opportunities to local residents and visitors. Most public recreational facilities and parks in the unincorporated county are owned and/or managed by one of five large independent special districts, or by a various local, State, and federal agencies, sometimes in joint arrangements. Others, including some facilities within the municipalities, are owned and managed by the municipalities themselves. This section describes all of these various types of recreational facilities in Butte County.

Federal Recreation Lands

US Forest Service

Butte County contains approximately 134,840 acres of federally owned National Forest Land. Two national forests extend into Butte County: Plumas National Forest and Lassen National Forest. A 209-acre research center, the Genetic Resource and Conservation Center, just outside of Chico, is administered by Mendocino National Forest. National forests, managed for multiple uses, emphasize providing dispersed recreation opportunities. They provide county residents and visitors with a wide variety of recreation experiences in a natural setting. Most visitors come from northern California counties, including the major population centers of San Francisco, Sacramento, Red Bluff, and Redding. Streams, natural lakes, human-made reservoirs, trails, and campgrounds are the principal attractions.

Plumas National Forest

Recreation opportunities in the Plumas National Forest include fishing, hunting, hiking, horseback riding, camping, nature photography and study, swimming, biking, off-road vehicle use, and mining (with a permit). Dispersed uses are complemented by recreational developments, including campgrounds, trails, picnic areas, boat launch ramps, sanitation facilities, and parking areas. Recreation areas occur throughout the forest; however, the most important and heavily used areas available within the county include the Middle Fork of the Feather River, Feather Falls Scenic Viewpoint, and Milsap Bar and Rogers Cow Camp Campgrounds. Sly Creek and Strawberry developed campgrounds are on Sly Creek Reservoir. The Feather River Ranger District is within Butte County. As a result of recent wildfires and COVID-19, several recreation facilities in Plumas National Forest are currently closed.

Lassen National Forest

Lassen National Forest recreational opportunities include camping, hunting, fishing, hiking, horseback riding, driving for pleasure, picnicking, snowmobiling, skiing, and off-road vehicle use. According to a 2,000-visitor survey, there were an estimated 656,068 visits to the forest in 2007 (a national forest visit is defined as the entry of one person on national forest land to participate in recreation activities for an unspecified period). Table 5.15-2, *Lassen National Forest Campgrounds and Recreation Sites*, lists the Lassen National Forest campgrounds and recreation sites and their locations, sizes, and facilities within Butte County.

TABLE 5.15-2 LASSEN NATIONAL FOREST CAMPGROUNDS AND RECREATION SITES

Facility	Location	Size (Acres)	Facilities
Cherry Hill Campground	In LNF on Butte Creek; T26N R4E SEC14	14	26 sites total, 5 walk-in sites, 9 tent-only drive in sites, 12 tent/RV sites, RV limit 22 feet, potable water, vault toilets
Butte Meadows Campground	LNF on Butte Creek; T26N R4E SEC28	4	13 tent/RV sites, drinking water, and vault toilets
Camp Lassen, Boy Scouts of America	On private land; Highway 32 by Butte Meadow	No Information	Lodge building, and water supply, and several other buildings
Trailheads			
Jonesville Snow Park	R4E T26N S14		9 miles of ungroomed cross-country ski trails for beginning and advanced skiers, 60 miles of groomed snowmobile trail, vault toilets, paved parking, accessible year-round
Jonesville Canyon	R5E T26N S18		3-mile out-and-back trail at the headwaters of Butte Creek, no facilities
Cold Springs	R5E T26N S15		Access point for the Pacific Crest Trail in LNF, no facilities

Note: LNF = Lassen National Forest.
Source: Table 8-6, Butte County 2021.

The Lassen National Forest provides two campgrounds in the northwestern tip of the county. These campgrounds include Cherry Hill and Butte Meadows. The Boy Scouts of America have a privately owned camp within Lassen National Forest. The State Route 32 highway corridor provides access to the scenic Butte Meadows area.

Mendocino National Forest Research Facility

Mendocino National Forest administers a 209-acre genetic research facility for coniferous tree species southeast of Chico. This facility, named the Chico Genetic Resource and Conservation Center, contains a paved trail providing public access through a 60-acre portion of the center. This trail provides wheelchair access and receives heavy use by persons with disabilities. The facility is especially popular on Arbor Day and remains busy throughout the year for group tours.

Bureau of Land Management

The U.S. Bureau of Land Management (BLM) owns approximately 15,590 acres in Butte County, consisting primarily of scattered foothill lands. The majority of BLM land falls within the "Forks of Butte Creek" subsection of the Ishi Management Area. BLM has designated its holdings on the Butte Creek canyon from above the Forks of Butte Creek to Helltown as an Outstanding Natural Area. In the upper Butte Creek canyon area, the Forks of Butte Creek Recreation Area is the only public access site for recreation. This area provides hiking, fishing, tubing, kayaking, picnicking, and camping, among other activities. In addition to these facilities, the BLM manages about 120 acres near Magalia that include a series of nature trails.

State Recreation Resources and Historic Sites

State Parks and Recreation Areas

Table 5.15-3, *State Parks, Reserves, and Recreation Areas*, lists Butte County's State parks, reserves, and State recreation areas and their locations and sizes. Existing State parks and recreation areas include the Lake Oroville State Recreation Area, which encompasses 47,000 acres and 12 separate recreation areas, as detailed in Table 5.15-3. Two wildlife management areas are operated by the State, including the Oroville State Wildlife Area near Lake Oroville and the Grey Lodge Wildlife Area southwest of Gridley. The Grey Lodge Wildlife Area includes 600 acres of riparian woodlands; portions of the original 2,540-acre parcel are believed to be undisturbed native marshland.

TABLE 5.15-3 STATE PARKS, RESERVES, AND RECREATION AREAS

Facility*	Location
Lake Oroville Recreation Area State of California	Lake Oroville and surrounding lands
Lime Saddle Area	West Branch Feather River
Goat Ranch Area	Extreme northern end of lake
Potter Ravine Area	Southwestern lakeshore
Spillway Area	Southwest lake by dam
Thermalito Forebay North Area	Area directly to west of Oroville Dam
Visitor Center	Atop Kelly Ridge, southern end of lake
Bidwell Canyon Area	Southern shore of lake
Loafer Creek Area	Southeast lake
Craig Saddle Area	Eastern lakeshore
Sycamore Creek Area	Eastern lake on Middle Fork of Feather River
Foreman Creek Area	Eastern lakeshore
Thermalito Forebay South Area	Area southwest of lake
Oroville State Wildlife Area	Highway 70, just west of city of Oroville
Gray Lodge State Waterfowl Management Area	Area southwest of Gridley

* The State Parks, Reserves, and Recreation Areas listed here and/or any of the facilities and/or amenities they offer may be temporarily closed due to fire impacts and/or COVID-19.

The Bidwell River Park, west of Chico, is a 180-acre park with amenities, including boat launches and picnic tables. As of 2007, this park served 500 visitors daily.

State Historic Sites and Monuments

Several State historic sites are found within Butte County. Among these are the Bidwell Mansion State Historic Park, a 5-acre park encompassing the historic home of John Bidwell, Chico's founder, and the house's grounds. Other State-designated historic sites and monuments include the Chinese Temple and the Ishi Monument, both in Oroville; the town site of Oregon City, a historic mining community; and the site of the old Bidwell Bar Bridge, now inundated by Lake Oroville.

Table 5.15-4, *State Historic Sites, Landmarks, and Monuments as of 2007*, lists Butte County's State-designated historic sites, landmarks, and monuments and their locations and facilities.

TABLE 5.15-4 STATE HISTORIC SITES, LANDMARKS, AND MONUMENTS AS OF 2007

Historic Site	Location	Facilities
No. 313 Hooker Oak	Bidwell Park, Hooker Oak Recreation Area, Manzanita Ave. between Vallombrosa and Hooker Oak Ave., Chico	Park
No. 314 Old Suspension Bridge	Lake Oroville State Recreation Area, Bidwell Canyon Road, Oroville	Site of the Mother Orange Tree of Butte County. Site of the Bidwell Bar Bridge. Now inundated by Oroville Reservoir.
No. 329 Rancho Chico and Bidwell Mansion State Historic Landmark and State Historic Park	Adjacent to California State University Chico; 525 Esplanade	5 acres; ornate home of Chico's founder, John Bidwell. Tours, visitor's center, and site of park system's district headquarters*
No. 330 Bidwell's Bar	Lake Oroville Recreation Area, Bidwell Canyon, Bidwell Canyon Road, Oroville	Second County Seat of Butte County and Courthouse, now inundated by Oroville Reservoir, is 120 yards west of the monument
No. 770 Chinese Temple	1500 Broderick Street, Oroville	Original place of worship for 10,000 Chinese that lived in the Oroville area
No. 807 Oregon City	Diggins Road between Oroville and Cherokee	Former townsite and a covered bridge with adjacent monument
No. 771 Dogtown Nugget Discovery Site	0.3 miles north of Pentz-Magalia Road on Skyway Drive, Paradise	Site of largest gold nugget found in northern California (54 lbs)
Ishi State Historical Monument	Quincy Avenue, Oroville	The Last Yahi Indian Monument

* Level of Use: Approximately 50,000 visitors per year.
Source: Table 8-8, Butte County 2021b.

Local Agency Parks and Recreation Facilities

This section describes the park and recreation facilities that are provided by local agencies, including the special districts, municipalities, and other agencies.

Chico Area

Facilities encompassed within the geographic area of the Chico Area Recreation District, including those within the City of Chico and surrounding area, are owned and operated variously by the Chico Area Recreation District, the City of Chico, and other local entities, including California State University (CSU) Chico and the Chico Unified School District. One of the most notable recreational amenities in this area is 3,600-acre Bidwell Park, owned by the City of Chico and one of the largest city parks in the entire country. Other large parks include the 40-acre Chico Area Recreation and Park District (CARD) Community Park, and the City-owned Hooker Oak Recreation Area. Many other smaller parks are owned and operated by the City and CARD. School district-operated facilities include a number of ballfields and athletic fields. A

complete listing of facilities in the Chico area is provided in Table 5.15-5, *Recreation and Park Facilities in the Chico Area*.

TABLE 5.15-5 RECREATION AND PARK FACILITIES IN THE CHICO AREA

Landowner	Location	Size (Acres)	Facilities
Regional Parks			
Bidwell Park, City of Chico	Northeast Chico, approximately 10 miles into the foothills	3,670	Golf course, swimming areas, ball fields, swimming pool, nature center, etc.
Community Parks			
Community Park, CARD	West of Hwy 99, north of 20th Street, Chico	40	Playing fields, playgrounds, picnic area, volleyball and tennis courts, BBQ area
Hooker Oak Recreation Area, City of Chico	On Chico Creek inside Bidwell Park	35	Playground, picnic areas, playing fields, BBQ area
One Mile Dam Area, City of Chico	Western section of Lower Bidwell Park	23	Swimming area, children's playground, softball field
Wildwood Park	Northeast Chico, adjacent to Bidwell Park	30	Play structure, tot lot, picnic areas, little league fields, multi-use sports field
DeGarmo Park, CARD	The Esplanade, north of East Avenue	36	Baseball and soccer fields, restrooms. Future facilities planned for this park include an aquatics center
Neighborhood Parks			
Baroni Park, CARD	Baroni Drive	7.3	Multi-use open turf play field, playground, basketball court, walking path, picnic tables, and disc golf baskets.
Hancock Park, CARD	Marigold and Middletown Avenue	3.8	Multi-use turf playfield, walking path, benches, and practice disc golf baskets
Humboldt Avenue State Park, CARD	371 Humboldt Avenue	3.8	Skate park
Oak Way Park, CARD	Oak Way and Nord Avenue	7.9	Basketball courts, lighted walking paths, open field space and covered picnic and barbecue areas.
Peterson Park, CARD	Denali Drive	4.1	Multi-use turf playfield, basketball court, playground, picnic tables, and a walking path.
Rotary Park, CARD	16th Street at Salem Street	0.7	Playground and basketball courts
Children's Playground, City of Chico	Western end of Bidwell Park	2.7	Play equipment and picnic area
City Plaza, Downtown Chico	5th Street at Broadway	1.7	Benches and covered areas
"Triangle" Park, City of Chico	9th Street at Main Street	Very small	None

Landowner	Location	Size (Acres)	Facilities
School Parks			
California State University, Chico Recreation Facility,* CSU, Chico	Western end of Bidwell Park	119	Outdoor pool, racquetball courts, sports fields, football stadium, track, golf course
Chico Senior High School, Chico Unified School District	901 Esplanade, Chico	No Information	Ball fields, tennis courts
Pleasant Valley High School, Chico Unified School District	1476 East Avenue, Chico	No Information	Ball fields, tennis courts
Bidwell Junior High School, Chico Unified School District	2376 North Avenue, Chico	No Information	Ball fields, tennis courts
Chico Junior High School, Chico Unified School District	280 Memorial Way	No Information	Soccer fields
Marsh Junior High School, Chico Unified School District	2253 Humboldt Road	No Information	Ball fields
Other Schools			
The following is a list of schools in the Chico area that provide other neighborhood recreation functions:			
Chapman Elementary	Neal Dow School		
Citrus Elementary	Marigold School		
Hooker Oak Elementary	Parkview School		
Emma Wilson Elementary	Shasta School		
John McManus School	Rosedale School		
Little Chico Creek School	Sierra View Elementary		
Other Recreation Centers/Pools			
Pleasant Valley Recreation Center, CARD	Northeast Chico, North Avenue	Building: 5,970 ft^2	Recreational programming and facility rentals
Community Center, CARD	Lower end of Bidwell Park	Building: 12,337 ft^2	Community center building
Dorothy F. Johnson Center, CARD	Chapman neighborhood	Building: 6,375 ft^2	Multipurpose room, game room, meeting rooms
Lakeside Pavilion, CARD	California Park Drive	Building: 6,000 ft^2	Meeting rooms, event facility, offices
Chico Creek Nature Center, CARD	Bidwell Park	4,700 ft^2	Museum, classrooms, multipurpose room
Silver Dollar Fairgrounds, Privately Owned	2357 Fair Street, Chico	63	Annual Fair, shows, events, rodeos, auto racing

*The University's rules often do not allow the general public to use University facilities.

Source: Table 8-1, Butte County 2021b.

Oroville Area

Recreation facilities within the geographic area of the Feather River Recreation and Park District (FRRPD) are owned and operated by various local agencies, including the FRRPD, the City of Oroville, and by the several school districts within this area. Significant among these are the 210-acre Riverbend Park, a FRRPD-owned facility along the Feather River in Oroville; the Nelson and Nolan Softball Complex, also in

Oroville; and the Forbestown Park, which serves the Forbestown area. Numerous other smaller parks, offering a variety of active and passive recreational opportunities, are located throughout the area, serving neighborhoods in the City of Oroville and other population centers. Local area schools also house many recreation resources. A complete listing of facilities in the Oroville area is provided in Table 5.15-6, *Recreation and Parks Districts in the Oroville Area*.

TABLE 5.15-6 RECREATION AND PARKS DISTRICT FACILITIES IN THE OROVILLE AREA

Landowner	Location	Size (Ares)	Facilities
Regional Parks			
River Bend Park, District	End of Montgomery Street	210	Amphitheatre, boat launch, disc golf, fishing ponds and a dog park, swimming area, benches, covered picnic tables, sand beach and trails
Community Parks			
Bedrock Park and Lagoon, City of Oroville	Arlin Rhine Drive and 5th Avenue	3.8	Amphitheater, tennis courts and swimming area
Mitchell Park, District	Mitchell and 5th Avenues	15.3	Playing fields, tot play area
Feather River Parkway, District/ City of Oroville	Below the Feather River dam	15	Bike path, hiking trail
Martin Luther King Park District	3 blocks south of Wyandotte Avenue, east of Myers Street	5.6	Basketball and volleyball courts
Lott-Sank Park, City of Oroville	Downtown Oroville, Montgomery and 4th Street	1.9	Museum, picnic area
Hewitt Park, City of Oroville	Baldwin Avenue near Myers Street	7.6	Antique steam engines, play equipment
Nelson Ballfields, District	6th Street off Nelson Avenue	30	Sports facility, recreation building, tennis courts
Forbestown Park and Community Center, District	Forbestown Road	3.6	Museum and multi-purpose facility
Palermo Park, District	Lincoln Boulevard near Palermo Road	5	Amphitheater, basketball courts, ball fields
Neighborhood Parks			
Rotary Park, City of Oroville	Safford and 1st Avenues	2.1	Sports fields, picnic area
Hammon Park, City of Oroville	2nd Street between Nelson and Rand Streets	4	Picnic area
Playtown USA, District	Pomona and 5th Avenues	No Information	Playground
Wyandotte Park, City of Oroville	Foothill Boulevard, north of Wyandotte	2.6	Basketball courts, picnic area
Parking Lot A, City of Oroville	Robinson Street between Myers and Huntoon Streets	0.5	Playground, picnic area
Nature Center, City of Oroville	No Information	5	Picnic area

Landowner	Location	Size (Ares)	Facilities
Schools			
The following schools have facilities that function as neighborhood parks:			
Bangor Union Elementary	Stanford Avenue School		
Concow School	Palermo School		
Helen Wilcox Elementary	Ophir School		
Oroville High School	Harrison Stadium		
Prospect Alternative	Central School		
Las Plumas High School	Honcut School		
Sierra Avenue School	Nelson Avenue School		
Other Public and Quasi-Public Facilities			
Bangor Park, Bangor Community Club	No Information	8.1	Playing fields, tennis courts
Shooting Range, State of California	Oroville area	n/a	
Memorial Hall, Butte County	2374 Montgomery Street	n/a	

Source: Table 8-2, Butte County 2021b.

Perhaps the most prominent recreational resource in the Oroville area is Lake Oroville. This important amenity, which is managed by the State of California, is discussed later in this chapter.

Paradise Area

The recreation facilities within the geographic area of the Paradise Area Recreation and Park District, including those within the Town of Paradise and the surrounding area, are owned and operated variously by the Paradise Area Recreation and Park District, the Town of Paradise, and other local entities, including the Paradise Unified School District. Included among these facilities are the 367-acre Coutolenc Park in Magalia; the 204-acre Paradise Lake; and the Paradise Memorial Trialway, a 4-mile paved trail along the old railroad line in Paradise. The Paradise Area Recreation and Park District maintains about 73 acres of developed park land and 358 acres of natural open space. Recreation facilities in the Paradise area were impacted by the 2018 Camp Fire and 2020 North Complex Fire. As a result of the wildfires, the Paradise Area Recreation and Park District is considering incorporating wildfire risk-reduction buffers around Paradise, Magalia, and Concow-Yankee Hill. A complete listing of facilities in the Paradise area prior to the 2018 Camp Fire is provided in Table 5.15-7, *Recreation and Park Facilities in Paradise Area*.

TABLE 5.15-7 RECREATION AND PARK FACILITIES IN PARADISE AREA

Landowner	Location	Size (Acres)	Facilities
Regional Parks			
Paradise Lake, PRPD	North Lake Road, Paradise	204	Paddling, fishing, hiking, mountain biking, and other activities
Community Parks			
Coutolenc Park, PRPD	On Coutolenc Road, North of Magalia	367	Paradise Bowhunters Archery Range, hiking, picnic area, mountain biking, day camps and programs, and chemical toilets
Paul Byrne Aquatic Park and Rotary Grove Park, PRPD	Buschmann Road and Recreation Drive, Paradise	5	Swim pool, fishing pond, playground, picnic area, restrooms, group barbecue area, sand volleyball courts, and horseshoe pits.
Moore Road Park, PRPD	Moore Road and Forest Service Road, Paradise	19	Ball fields, bleachers, picnic area, and horse-riding arena
Paradise Community Park, Town of Paradise	Black Olive Drive and Pearson Road, Paradise	-	Picnic tables, restrooms, playground, and Depot Museum
Terry Ashe Recreation Center, PRPD	6626 Skyway, Paradise	3.5	Business office, recreation center, picnic area, playground, gazebo, restrooms, and slab area
Paradise Lake Picnic Area, PRPD	Lucretia Road, Paradise	8.3 mi^2	Fishing, hiking, picnicking playground, mountain biking, kayaking, boat ramps for non-gas engines, and chemical toilets
Clotilde Merlo Park, Private	Stirling City	20	Meadows, reflection ponds, trails, horseshoe pits, bocce courts, wedding chapel, and restrooms
Neighborhood Parks			
Bille Park, PRPD	501 Bille Road, Paradise	55	Playground, picnic area, group barbecue area, meadow, nature trail, and restrooms
Crain Memorial Park, PRPD	Jeffrey Lane, Concow	8	Picnic area, meadow, and chemical toilets
Oak Creek Park, PRPD	East end of Pearson Road	20	Walking trail, undeveloped
Noble Park, PRPD	Pentz Road	20	Undeveloped
Lakeridge Park, PRPD	Lakeridge Circle, Magalia	26	Undeveloped trails, future development site
Paradise High School, Paradise Unified School District	5911 Maxwell Drive, Paradise	26	Track, tennis courts, football field, baseball field, softball field, play fields, gymnasium, and multi-purpose facility
Ridgeview High School, Paradise Unified School District	Pearson Road, Paradise	4	Play field and hard surface play area
Paradise Intermediate School, Paradise Unified School District	550 Pearson Road, Paradise	11	Play fields, outside basketball courts, gymnasium, and multi-purpose facility

Landowner	Location	Size (Acres)	Facilities
Cedarwood Elementary School, Paradise Unified School District	6400 Columbine Road, Magalia	10	Play fields, playgrounds, and multi-purpose facility
Pine Ridge Elementary School, Paradise Unified School District	13878 Compton Drive, Magalia	20	Play fields, playground, outside basketball courts, and multi-purpose facility
Paradise Ridge Elementary School, Paradise Unified School District	6593 Pentz Road, Paradise	11	Play fields, playground, and multi-purpose facility
Linear Parks			
Paradise Memorial Trailway Town of Paradise	Neal Road to Pentz Road, Paradise	4 miles (80- to 100-foot right of way)	Paved walkway along old railroad line
Magalia and Paradise Lake Loop Trail	Lakeridge Park, Coutolenc Park, and Paradise Lake	15 miles	Future 15-mile multi-use trail loop connecting Lakeridge Park, Coutolenc Park, and Paradise Lake

Source: Table 8-3, Butte County 2021b.

Another significant recreational resource in the Paradise area is a system of nature trails. This amenity is owned and managed by the BLM and spans over 120 acres on State land. In January 2021, the Paradise Recreation and Park District secured a grant from the State Recreational Trails and Greenways Grant program to fund a new multi-use, 15-mile trail linking Magalia and Paradise Lake and extending a portion of the Butte County Railway trail. There is also a master plan for a new 26-acre park on the land east of Lakeridge Circle.

Durham Area

Facilities within the geographic area of the Durham Recreation and Park District, including those within the community of Durham and surrounding area, are owned and operated by the Durham Recreation and Park District, and other local entities, such as the Butte-Glen Community College District and the Durham Unified School District. The most prominent amenity in the Durham area is Butte Community College, which provides 234 acres of recreational land, with facilities that include sport courts and athletic fields. A complete listing of facilities in the Durham area is provided in Table 5.15-8, *Durham Area Recreation and Parks District Facilities as of 2007*.

TABLE 5.15-8 DURHAM AREA RECREATION AND PARKS DISTRICT FACILITIES AS OF 2007

Landowner	Location	Size (Acres)	Facilities
Regional Parks			
None.			
Community Parks			
Louis Edwards Park, District	9447 Midway, community of Durham	3.8	Dwight Brinson Swim Center, which contains a 25-meter swimming pool with diving board, wading pool, locker room; park contains tennis courts, and rest rooms
Ravekes Park, District	9451 Midway, community of Durham	½	Small children's playground, four tennis courts, and two picnic tables
Midway Field, District	Southeast Corner of Midway, community of Durham	6	Multi-purpose sports facilities, bleachers, and drinking fountain
Durham Community Park, District	1847 Durham-Dayton Highway, two miles east of Durham	24	Sports facilities, horse arena, picnic areas, children's playground, concession stand, and bleachers
Butte Community College, Butte-Glenn Community College District	10 miles east of the community of Durham	234	Tennis courts, soccer fields, and other facilities.*
Neighborhood Parks			
Durham Elementary School and Durham High School, Durham Unified School District	Adjacent to each other in Durham	No Information	Various ball courts, playing fields, and playground equipment
Durham Memorial Hall, District	9319 Midway, City of Durham	8,496 ft^2	Main hall with stage, full kitchen, and two meeting rooms
Nelson Park, District	On Midway Street in Nelson, seven miles south of Durham	2.5	Baseball fields, swings, "open park"

* Durham area residents are allowed to use Butte College facilities, which are owned and maintained by the college.
Source: Table 8-4, Butte County 2021b.

Richvale Area

Recreational facilities within the geographic area of the Richvale Recreation and Park District are limited. The Richvale Recreation and Park District maintains 2 acres of parkland on land shared with the Richvale Elementary School. The park contains basketball courts, tennis courts, a recreation room, a picnic area, and softball fields. The district has historically held an agreement with Biggs Unified School District to maintain and improve the facilities at Richvale Elementary School.

Gridley and Biggs Area

Recreation facilities within the geographic area of the community service areas for Gridley and Biggs, including those within the cities and the surrounding areas. Two recreational amenities in this area are the Olympic-sized swimming pool in Gridley and the community swimming pool in Biggs, which are owned by the County and operated by the Gridley Fairgrounds and Biggs Unified School District, respectively. A

complete listing of facilities in the Gridley and Biggs area is provided in Table 5.15-9, *Gridley-Biggs Area Parks and Other Recreational Facilities as of 2007*.

TABLE 5.15-9 GRIDLEY-BIGGS AREA PARKS AND OTHER RECREATIONAL FACILITIES AS OF 2007

Landowner	Location	Size (Acres)	Facilities
Regional Parks			
Butte County Fairgrounds, County	Gridley	17.5	Facilities open year-round; fair features horticulture, agriculture, and floriculture exhibits, and livestock show; also includes meeting area, auditorium, event space sports arenas, gymnasium, education facilities, and picnic areas
Community Parks			
Vierra Park	Gridley	12	Adult play fields, children's play area, and ball courts
Olympic-Size Swimming Pool, County	Gridley: Between high school and fairgrounds	- -	Swimming pool
Community Swimming Pool, County	Biggs High School	- -	Swimming pool
Cork Oak Park	Biggs	1	Fields and ball courts
Neighborhood Parks			
Biggs Family Park	Downtown Biggs	7	Picnic tables and grass field
Daddow Plaza	Downtown Gridley	1	Bandstand, picnic tables, and gazebo surrounding area that can be assumed to take on a recreational function
Schools			
Gridley High School	Manzanita School		
Sycamore School	Wilson School		
McKinley School	Biggs Elementary School		
Biggs Middle/Junior High School	Esperanza High School		

Source: Table 8-5, Butte County 2021b. Landowner and facility size could not be obtained.

Recreational Corridors, Wild and Scenic Rivers, and Trails

A number of developed recreational trails are found in Butte County, many of which are within the National Forest lands in the foothills of eastern Butte County. These include two national trails, as follows:

- Pacific Crest National Scenic Trail. Approximately 6 miles of the federally designated Pacific Crest National Scenic Trail is in Lassen National Forest on the eastern Butte-Plumas County border. The Pacific Crest National Scenic Trail receives high use, as this trail provides continuous recreational access from Canada to Mexico.

- The Feather Falls National Recreation Trail. This 3.5-mile trail is within Plumas National Forest and provides hiking access to the Feather Falls National Scenic Area and to Feather Falls, noted as the sixth-highest waterfall in the continental United States and third-highest waterfall in California. The Feather Falls trail and scenic area is a very popular spring and summer attraction.

In addition, a 17.5-mile loop trail at Loafer Creek and portions of the Freeman Trail are accessible for equestrian and bicycle riding at Lake Oroville State Recreation Area. The California Hiking and Equestrian Trail, which is maintained by the California Department of Parks and Recreation, provides pedestrian and equestrian recreational opportunities in the Oroville area. Within the Chico Recreation and Park District, a system of trails serves the Chico urban area, and trails are also found within the Lake Oroville State Recreation Area and other City, State, and District-managed parks and recreation lands.

Recreational Corridors – Highway Travel

Recreational driving and travel is an important pastime for many visitors to Butte County, both for the enjoyment of the County's many scenic highways and byways, as well as for access to public recreation lands and resources. Several transportation corridors in the county provide access to recreational opportunities in the foothills of the Sierra Nevada. About five miles north of Oroville, State Route 70 (commonly called the Feather River Highway) turns northeast through the foothills to Plumas National Forest. It provides access to the Feather River canyon area and into the Sierra Nevada foothills in Plumas County. Highway 149 is an important transportation corridor between South Routes 70 and 99, connecting the community of Oroville to the Chico area. State Route 99 provides access to valley and riparian environments as well as recreation areas. From Sutter County north, State Route 99 follows the Feather River and just north of Chico turns northwest towards Red Bluff. State Route 32 provides access from the Chico area northeast to the alpine environment of Butte Meadows.

Although there are no officially designated State Scenic Highways in Butte County, Highway 149 near Highway 70 and Wicks Corner is considered an eligible State Scenic Highway.

Wild and Scenic Rivers

A 77.6-mile portion of the Middle Fork of the Feather River has federal Wild and Scenic River status (NWSRS 2021). This river is within the boundaries of the Plumas National Forest. The wild and scenic designation covers 24,000 acres, generally within a one-eighth to one-quarter mile band along the river and extends from Beckworth in the Sierra Valley (Plumas County) to Lake Oroville. Approximately 10.5 miles of this wild and scenic river flow through Butte County. The river represents a unique free-flowing stream that is the only charter member of the National Wild and Scenic River System in California.

Within the county, the river falls into two distinct management zones. The first is the Bald Rock Canyon Wild River Zone, which extends from Lake Oroville (900 feet elevation) upstream for about 5.4 miles through Bald Rock Canyon to the junction of an unnamed drainage on the east side of the river (1,500 feet elevation). The second is the Milsap Bar Scenic River Zone, which is about 3.6 miles long, and continues upstream from the Bald Rock Canyon Wild River Zone to a point about five miles east of Devil's Gulch.

Both zones provide a recreational experience compatible with a free-flowing river. The river meanders through meadowlands and a small canyon. Milsap Bar campground is within the Wild and Scenic River area and provides overnight camping facilities and river access by dirt road. No other road access is available along the river in Butte County. Access and uses are restricted along the river. Gold dredging is permitted only in the Milsap Bar Scenic River Zone.

Trails

Butte County does not have any formal or organized system of trails nor a specific interest group involved in the formation and promotion of a county or region-wide trails system. However, a number of developed recreational trails are found in the county, many of which are within the National Forest lands in the foothills of eastern Butte County. These include two national trails, as follows:

- Pacific Crest National Scenic Trail – Approximately 6 miles of the federally designated Pacific Crest National Scenic Trail is in Lassen National Forest on the eastern Butte-Plumas County border. The Pacific Crest National Scenic Trail receives high use, as this trail provides continuous recreational access from Canada to Mexico.
- Feather Falls National Recreation Trail – This 3.5-mile trail is within Plumas National Forest and provides hiking access to the Feather Falls National Scenic Area and to the Feather Falls, noted as the sixth-highest waterfall in the continental United States and third-highest waterfall in California. The Feather Falls trail and scenic area is a very popular spring and summer attraction.

In addition to these listed trails, a 17.5-mile loop trail at Loafer Creek and portions of the Freeman trail are accessible for equestrian riding at Lake Oroville State Recreation Area. Within the Chico Recreation and Park District, a system of trails serves the Chico urban area, and trails are also found within the Lake Oroville State Recreation Area and other City, State, and District-managed parks and recreation lands. Table 5.15-10, *Major Butte County Recreation Trails*, lists the existing trails inventory for Butte County and their locations.

TABLE 5.15-10 MAJOR BUTTE COUNTY RECREATION TRAILS

Trail Name	Location
Yahi Trail	City of Chico, Upper Bidwell Park
Big Bald Rock Trail	Big Bald Rock, Plumas National Forest
Dome Trail	below Bald Rock Dome (Bald Rock Canyon Trail), Plumas National Forest
Lower Seven Falls/Milsap Bar Falls	South Branch Middle Fork Feather River, Plumas National Forest
"Snag Lake" Trail	Lassen Volcanic National Park, Butte meadows to Snag Lake
Butte Creek Trail	Plumas National Forest, begins at Doe Mill Ridge and follows east bank of Butte Creek
Paradise Parkway Trail	City of Paradise, through town
Valley Ridge Trail	Lassen National Forest, Butte Creek Canyon rim
Paradise Reservoir Trail	Town of Magalia, Paradise Reservoir
Brad Freeman Trail	Lake Oroville State Rec Area
Humboldt Peak	Lassen National Forest, part of Pacific Crest Trail
Feather Falls Scenic Area and Recreation Trail	Plumas National Forest
Little Chico Creek Trail	City of Chico, along Little Chico Creek
Butte Creek House Trail	Lassen Volcanic NP, Jonesville to Butte Creek House
California Hiking and Equestrian Trail	Along Thermalito Afterbay areas
Big Chico Creek Loop	City of Chico, Upper Bidwell Park
Jonesville Canyon Trail	Outside City of Chico
Mountain House Trail	1.9 mi.; north of Feather River Scenic Area
Middle Trail-Live Oak-Upper Trail Loop	City of Chico, Upper Bidwell Park
Hanson Bar Trail	Plumas National Forest, Butte boundary, south Feather River
Sky High Trail	Plumas National Forest, north of Feather River Scenic Area
Lindo Channel Trail	Within Chico Loop Trail
Tackle Dome Trail	Plumas National Forest, starts above Bald Rock Canyon
North Rim Trail	City of Chico, Upper Bidwell Park
South Rim Trail/Annie Bidwell Trail	City of Chico, Upper Bidwell Park
Rattlesnake Hill Trail	Lake Oroville State Rec. Area, North Thermalito Forebay
Pine Creek Loop	Sacramento River National Wildlife Refuge
Yellowstone Kelly Heritage Trail	City of Paradise, Runs parallel to Skyway
Table Mountain	Outside the City of Oroville, North Table Mountain Ecological Reserve
Dan Beebe Trail	City of Oroville, starts at Saddle Dam and follows Kelly Ridge towards visitor center
Indian Springs Trail	Town of De Sabla
Lime Saddle Memorial Park Trail	Lake Oroville State Rec Area, Northwestern side of Lake Oroville along West Branch of the Feather river

* Trails may be temporarily closed due to fire impacts.
Source: Table 8-9, Butte County 2021b.

5.15.5.2 STANDARDS OF SIGNIFICANCE

The proposed project would have a significant impact with regard to parks and recreation if it would:

- Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated; or
- Result in substantial adverse physical impacts associated with the provision of new or physically altered park facilities, or result in the need for new or physically altered park facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios or other performance objectives.

5.15.5.3 PROPOSED GENERAL PLAN POLICIES

The following are relevant policies of the Butte County General Plan Update, which may reduce impacts to parks and recreations services a result of implementation of the proposed project.

Public Facilities and Service Element

- **PUB-P6.2:** Review of development proposals shall be coordinated with public agencies in order to designate sites for new parks and recreation facilities.
- **PUB-P6.3:** Recreational events, such as marathons, triathlons, bicycle races, bird-watching events, rodeos or fishing tournaments, etc., shall be encouraged in Butte County, provided that the event pays for all necessary public services.
- **PUB-P6.4:** The County supports the development of a regional recreation campus to serve community needs for recreation space and reduce the need for county residents to travel outside the county for recreation.
- **PUB-P6.5:** New residential development shall be assessed for Quimby Act fees to support park development in coordination with parks and recreation districts.
- **PUB-P6.6:** Allowed densities shall be increased when parks are incorporated into development projects. Parks must meet standards set in district master plans.
- **PUB-P6.7:** Where appropriate, new residential developments should include permanently protected and maintained open space using mechanisms such as, but not limited to, conservation easements and development agreements.
- **PUB-P6.8:** Utilize Community Facilities Districts, Mello-Roos and/or landscaping and lighting districts to provide funding for on-going maintenance and operation of parks and recreation facilities in medium density (six dwelling units per acre) and higher density residential developments when warranted.
- **PUB-A6.1:** Coordinate with park and recreation districts to allow the development of park and recreation facilities on publicly owned land.

- **PUB-P7.1:** The County shall coordinate with municipalities, park and recreation districts, and school districts to plan and develop additional regional and community parks, support and coordinate park master plans, coordinate financing for recreation and park facilities, and plan for the distribution of federal and State funds for recreation and park programs and facilities.
- **PUB-P7.2:** Implementation and development of recreation and park facilities within park and recreation district boundaries shall be consistent with the applicable district's master plans.
- **PUB-P7.3:** The County recognizes the importance of regional planning and coordination with federal, State, and local agencies, to include neighboring counties and jurisdictions, and shall maintain a Coordinating Committee whose function is to facilitate coordination efforts with State and federal public land managers. The County shall establish additional mechanisms to solicit public participation and comment involving the utilization, management, enjoyment and sustainability of public lands.
- **PUB-P8.1:** The County shall coordinate with municipalities, park and recreation districts, federal or State agencies, and private landholders to connect trails between incorporated and unincorporated regions of Butte County.

Environmental Justice Element

- **EJ-P1.1:** The County shall work with municipalities and park and recreation districts to convert public easements, such as utility corridors or unused rights-of-way, into parks and trails within and connecting to Communities of Opportunity.
- **EJ-P1.2:** In coordination with park and recreation districts, the County shall work with Communities of Opportunity to understand and address barriers to accessing and utilizing existing recreation opportunities.
- **EJ-P1.3:** Pedestrian and bicycle connections shall be provided to parks, green space, recreational facilities, trails, and natural environments for residents in Communities of Opportunity.
- **EJ-P1.4:** The County shall prioritize Communities of Opportunity for funding for development or improvement of parks and recreational facilities and encourage park and recreation districts to do the same.

Area Plans Element

- **D2N-P4.8:** Expand the recreational opportunities of the Planning Area.
- **D2N-P4.9:** Develop policies for park sitting and dedication within the Planning Area.
- **D2N-P9.3:** Promote the use of historical properties, sites and districts for the education and recreation of the citizens of the County.

Health and Safety Element

- **HS-P20.2:** Facilities, such as parks and community centers, shall be equipped with adequate water stations, cooling stations, and shady outdoor spaces to provide refuge from extreme heat, and should have effective systems in place to notify community members about these resources.

Land Use Element

- LU-P3.3: Newly-developed neighborhoods shall include parks and recreation facilities. Sidewalks, bike paths, and other routes shall provide circulation to surrounding areas.

Circulation Element

- CIR-P3.2: A continuous, integrated, and accessible pedestrian network shall be provided in urbanized areas to encourage walking as a viable transportation mode and as a form of recreation and exercise.
- CIR-P3.4: New development projects shall provide adequate pedestrian, bicycle, and multiuse facilities in a way that integrates circulation and recreational use, commensurate with the impacts of the project, local and regional plans, and consistent with surrounding development.

5.15.5.4 IMPACT DISCUSSION

PS-9	The proposed project would not increase the use of existing neighborhood and regional parks or other recreational facilities, such that substantial physical deterioration of the facility would occur or be accelerated.

General Plan 2040

Differing standards are used to evaluate what amount of parkland is "adequate" to serve a particular population. The Quimby Act allows cities and counties to require land or in-lieu fees for a minimum of 3 acres per 1,000 residents. However, the park and recreation districts within Butte County use a level of service ratio of 5 acres of usable parkland per 1,000 people. There are over 1 million acres of open space and parkland in the county and approximately 618,000 acres of open space and parkland in unincorporated Butte County serving an existing population of 83,900 residents. On average, park and recreation facilities in Butte County exceed the Quimby Act minimum standard of 3 acres per 1,000 residents. In part, this is accomplished through joint-use agreements with school districts to obtain access to sports fields, basketball, tennis, gymnasiums, and other recreational facilities. However, there are only approximately 70 acres of developed parkland within unincorporated Butte County that are considered "usable" parks by the County's parks and recreation districts.[2] In addition, Butte College owns and operates approximately 230 acres of developed parkland, for a total of approximately 300 acres of developed parkland in unincorporated Butte County. This results in a level of service ratio of 3.6 acres of developed parkland per 1,000 residents, which does not meet the local park and recreation district standard.

[2] This is based on data provided to Dan Breedon, Principal Planner, Butte County Department of Development Services, by Steve Visconti, Director, Chico Area Recreation and Parks District, Mike Trinca, Director, Paradise Recreation and Parks District, and Jim Brinson, Director, Durham Recreation and Park District on October 30, 2009.

Policies in General Plan 2040 ensure that park and recreational facilities are funded so that they can be adequately maintained. Policy PUB-P6.5 requires that new residential development be assessed for Quimby Act fees to support park development. Action PUB-A6.8 directs the County to use Community Facilities Districts, Mello-Roos, and/or landscaping and lighting districts to provide funding for ongoing maintenance and operation of parks and recreation facilities in medium-density (six dwelling units per acre) and higher-density residential developments. Action PUB-A7.1 directs the County to identify strategies to assist special districts with funding, planning, and support for recreation and park facility development, and to establish a plan for the distribution of federal and State funds for recreation and park programs and facilities.

Other General Plan 2040 policies ensure that new parkland and recreational facilities are developed to accommodate the growing population, which would help to avoid deterioration of existing facilities. Policy PUB-P6.2 directs the County to coordinate the review of development proposals with other agencies to designate sites for new parks and recreation facilities. Policy PUB-P6.6 allows density increases when small parks are incorporated into development projects. Policy PUB-P6.7 encourages permanently-protected and maintained open space in new development using mechanisms such as conservation easements and development agreements. Policy PUB-P7.1 directs the County to cooperate with the municipalities, park and recreation districts, and school districts to plan and develop additional regional and community parks, support and coordinate park master plans, coordinate financing for recreation and park facilities, and plan for the distribution of federal and State funds for recreation and park programs and facilities.

New residents resulting from the proposed General Plan 2040 would increase the use of existing facilities throughout the county, but this increase in users would not cause significant physical deterioration to any single recreational facility because General Plan 2040 promotes the development of new park facilities that would serve new residents. In addition, General Plan 2040 includes a number of policies that address funding for park facilities. Therefore, the proposed project would result in a less-than-significant impact.

Level of Significance Before Mitigation: PS-9 would be less than significant.

Mitigation Measures

No mitigation measures are required.

Upper Ridge Community Plan

As discussed in Chapter 3, *Project Description*, the URCP would increase development potential in the Upper Ridge community with 28 parcels redesignated from Retail and Office to Mixed-use land uses in the Old Magalia and Magalia Center neighborhoods. Potential future development under the proposed project would add 1,915 additional residents to the Upper Ridge Community. This action may increase the use of the parks and recreation services provided by Paradise Recreation and Parks District (PRPD) in addition to other regional and state parks and recreation facilities. The PRPD is planning for new recreation centers, community parks, trails, and improved access to existing park land, as well as rebuilding of park facilities following the Camp Fire (Butte County 2022).

As noted previously, several policies and actions in General Plan 2040 ensure that park and recreational facilities are funded so that they can be adequately maintained. These include Policies PUB-P6.2, PUB-P6.5, PUB-P6.6, PUB-P6.7, and PUB-P7.1 and Actions PUB-A6.8 and PUB-A7.1. Additionally, the URCP includes several strategies that would reduce impacts to parks and recreation facilities in the Upper Ridge Plan Area, including Strategy 1.5, which directs the County to serve the recreational needs of the Upper Ridge by providing a coordinated set of community park and recreational assets at three sites in the central Magalia area, each with its own set of complementary yet unique uses. Furthermore, projects would also be subject to CEQA review on a project-specific basis following submittal of a specific development proposal. Therefore, impacts to parks and recreation services in the Upper Ridge Plan Area would be less than significant.

Level of Significance Before Mitigation: PS-9 would be less than significant.

Mitigation Measures

No mitigation measures are required.

PS-10	The proposed project would not include recreational facilities or require the construction or expansion of additional recreational facilities that might have an adverse physical effect on the environment.

General Plan 2040 would result in development that would increase the demand for parks and recreational facilities. This would likely result in the need for new or expanded park facilities. However, the locations of such facilities are not known at this time. As a result, it cannot be determined what project-specific environmental impacts would occur from their construction and operation. These potential impacts would be identified during the facility site selection process.

In addition, General Plan 2040 includes policies and actions that would help ensure that parkland goals are met. Policies PUB-P6.5, PUB-P6.6, PUB-P6.7, and PUB-P7.1 ensure that new parkland and recreational facilities are developed to accommodate the growing population. Additionally, Policy PUB-P6.8 and PUB-A7.1 ensure that park and recreational facilities are funded.

As a result of the proposed policies, parks and recreation facility impacts would be less than significant.

Level of Significance Before Mitigation: PS-10 would be less than significant.

Mitigation Measures

No mitigation measures are required.

5.15.5.5 CUMULATIVE IMPACTS

PS-11	The proposed project, in combination with past, present, and reasonably foreseeable projects, would not result in less-than-significant cumulative impacts with respect to parks and recreational facilities.

Future regional growth would result in increased demand for park and recreational facilities throughout the region. As a result, new parks and recreational facilities would need to be constructed, or existing facilities may need to be expanded. As with the project-level analysis, the location and size of additional facilities would be determined as part of future development activity. As specific park and recreation facility expansions or improvement projects are identified, additional project-specific, environmental analysis would be completed. As a result, a less-than-significant cumulative impact associated with parks and recreation would occur.

Level of Significance Before Mitigation: PS-11 would be less than significant.

Mitigation Measures

No mitigation measures are required.

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5.16 TRANSPORTATION

This chapter describes the regulatory framework and existing conditions in the Plan Area related to transportation, and the potential impacts of the project on transportation.

5.16.1 ENVIRONMENTAL SETTING

5.16.1.1 REGULATORY FRAMEWORK

This section summarizes key existing State and regional/local statutes, regulations, and policies pertaining to transportation in Butte County. These regulations provide guidance related to the following: roadway operations; the design of roadway facilities; provision of emergency access; parking supply; alternative transportation, including transit and non-motorized modes; and air traffic considerations.

State Regulations

Assembly Bill 1358 (California Complete Streets Act)

Assembly Bill (AB) 1358 or the California Complete Streets Act, was signed into law on September 30, 2008. Since January 1, 2011, AB 1358 has required circulation element updates to address the transportation system from a multimodal perspective. AB 1358 states that streets, roads, and highways must "meet the needs of all users in a manner suitable to the rural, suburban, or urban context of the General Plan." The act requires a circulation element to plan for all modes of transportation where appropriate, including walking, biking, car travel, and transit. In addition, AB 1358 requires circulation elements to consider the multiple users of the transportation system, including children, adults, seniors, and the disabled.

Assembly Bill 32 (Global Warming Solutions Act)

AB 32, or the Global Warming Solutions Act, was signed into law on September 27, 2006. AB 32 established a comprehensive program to reduce greenhouse gas (GHG) emissions to combat climate change. AB 32 requires the California Air Resources Board (CARB) to develop regulations that reduce GHG emissions to 1990 levels by 2020. On January 1, 2012, the GHG rules and market mechanisms, adopted by CARB, took effect and became legally enforceable. The reduction goal for 2020 is to reduce GHG emissions by 25 percent of the current rate to meet 1990 levels and a reduction of 80 percent of current rates by 2050. The AB 32 Scoping Plan contains the main strategies California will use to reduce GHGs. The scoping plan has a range of GHG reduction actions, which include direct regulations, alternative compliance mechanisms, monetary and non-monetary incentives, voluntary actions, market-based mechanisms, and an AB 32 program implementation regulation for funding. In 2016, the Legislature passed Senate Bill (SB) 32, which codifies a 2030 GHG emissions-reduction target of 40 percent below 1990 levels. CARB recognizes cities as "essential partners" in reducing GHG emissions. CARB has developed a Local Government Toolkit with guidance for GHG reduction strategies such as improving transit, developing bicycle/pedestrian infrastructure, increasing city fleet vehicle efficiency, and other strategies.

Senate Bill 375 (Sustainable Communities and Climate Protection Act)

SB 375, or the Sustainable Communities and Climate Protection Act, provides incentives for cities and developers to bring housing and jobs closer together and to improve public transit. The goal is to reduce the number and length of automobile commuting trips, helping to meet the statewide targets for reducing GHG emissions set by AB 32.

SB 375 requires each metropolitan planning organization (MPO) to add a broader vision for growth to its transportation plan — called a Sustainable Communities Strategy (SCS). The SCS must lay out a plan to meet the region's transportation, housing, economic, and environmental needs in a way that enables the area to lower GHG emissions. The SCS should integrate transportation, land use, and housing policies to plan for achievement of the emissions target for each region. The BCAG Regional Transportation Plan (RTP) and SCS were adopted in 2016.

For consistency with the regional planning objectives of the SCS, consideration of ways to achieve the following is needed as part of the General Plan Update process:

- Support transit-oriented development;
- Support mixed-use development, which improves community walkability;
- Improve jobs-to-housing ratio;
- Promote land use patterns that encourage the use of alternatives to single-occupant automobile use;
- Apply Transportation System Management (TSM) and Complete Streets practices to arterials to maximize efficiency;
- Improve modes through enhanced service, frequency, convenience, and choices; and
- Enhance Transportation Demand Management (TDM) practices to reduce barriers to alternative travel modes and attract commuters away from single-occupant vehicle travel.

Senate Bill 743

SB 743 was signed into law on September 27, 2013, and has the potential to fundamentally change the traditional transportation impact analyses conducted as part of the California Environmental Quality Act (CEQA) process. According to this bill, traffic impacts of a residential, mixed-use residential, or employment center project on an infill site within a transit priority area would not be considered significant. Also, residential, mixed-use, and employment center projects meeting specific criteria would be exempt from CEQA. Furthermore, for the CEQA process, this bill eliminates measures such as auto delay, level of service (LOS), and other vehicle-based measures of capacity in many parts of California. Instead, other measurements, such as vehicle miles travelled (VMT), are to be used to measure impacts.

The purpose of SB 743 is to balance the needs of congestion management, infill development, public health, GHG reductions, and other goals. The Office of Planning and Research released the *Technical Advisory on Evaluating Transportation Impacts in CEQA* in December 2018.

Regional and Local Regulations

Butte County General Plan 2030

The following policies are included in the existing General Plan regarding transportation. The numbering is from the existing General Plan and therefore may not be consecutive.

Land Use Element

- Goal LU-9 Coordinate land development with provision of new services and infrastructure.
    - LU-P9.2 The County shall balance development densities with the traffic-carrying capacities of existing and proposed circulation plans.

Circulation Element

- Goal CIR-1 Promote intergovernmental communication and cooperation concerning transportation-related issues.
    - CIR-P1.1 Circulation capital improvement plans shall be jointly coordinated with the respective municipalities and the Butte County Association of Governments.
    - CIR-P1.2 The improvement of major travel corridors to Interstate 5 for the movement of goods and services to and from the interstate shall be coordinated with State, County and local agencies.
    - CIR-P1.3 Transportation planning within the municipalities' spheres of influence shall consider the municipalities' land use and circulation plans, as appropriate, and shall be consistent with Policy CIR-P6.1 pertaining to County Levels of Service.
- Goal CIR-2 Plan for transportation modes and strategies that ensure good air quality, reduce greenhouse gas emissions, reduce petroleum consumption and reduce the need to devote additional lands to transportation uses.
    - CIR-P2.1 Carpooling shall be encouraged by providing additional carpool pickup and park-and-ride locations near transit centers and at freeway interchanges.
    - CIR-P2.2 Trip reduction among County employees shall be encouraged. Specific measures to encourage trip reduction could include providing subsidies, bicycle facilities, alternative work schedules, ridesharing, telecommuting and work-at-home programs, employee education and preferential parking for carpools/vanpools.
    - CIR-P2.3 Home occupations shall be encouraged through streamlined application processes that are appropriate to the intensity and proposed uses of the home business.
    - CIR-P2.4 Employers shall be encouraged to provide transit subsidies, bicycle facilities, alternative work schedules, ridesharing, telecommuting and work-at-home programs, employee education and preferential parking for carpools/vanpools.
    - CIR-P2.5 Transportation corridors for renewable energy transmission and for new transit lines shall be preserved.

- CIR-P2.6 The County shall incorporate "Complete Streets" policies that are designed and built to be safe for all users, including pedestrians, bicyclists and transit users.
- CIR-P2.7 Where feasible and appropriate, and where non-motorized travel is reasonably expected, the width of existing streets shall be reduced through bulb outs, medians, pedestrian islands and similar methods, and planting shade trees in landscaped areas within and adjacent to streets, while not jeopardizing emergency response and future capacity requirements as determined by the Butte County Fire Department and Public Works Department.

- Goal CIR-3 Design new neighborhoods, and improve existing neighborhoods, to accommodate and promote alternative modes of transportation.
  - CIR-P3.1 The County supports improved connections to other regional transportation services, such as rail and regional/national bus lines, and to connect Butte County communities with each other.
  - CIR-P3.2 A safe, continuous, integrated and accessible pedestrian network shall be provided in urbanized areas, so as to encourage walking as a viable transportation mode and as a form of recreation and exercise.
  - CIR-P3.3 Travel modes shall be interconnected to form an integrated, coordinated and balanced multi-modal transportation system.
  - CIR-P3.4 Major new development projects, as determined by the Department of Development Services, shall consider provisions for alternative modes of transportation.
  - CIR-P3.5 New development projects shall consider providing adequate pedestrian, bicycle and multi-use facilities in a way that integrates circulation and recreational use.
  - CIR-P3.6 New neighborhoods shall provide bike and pedestrian connectivity between streets.
  - CIR-P3.7 Arterial and collector streets shall be designed to enhance the integrity and cohesiveness of urban neighborhoods.
  - CIR-P3.8 Major residential development projects shall be designed with interconnected collector street patterns and short block lengths. Cul-de-sac and dead-end streets shall conform to County design standards.
  - CIR-P3.9 Public facilities shall be located and designed to allow for convenient access from public transit and/or bicycle and pedestrian facilities.
  - CIR-P3.10 Trees located along urban streets shall be protected. If maintenance or upgrading requires tree removal, the trees shall be replaced.

- Goal CIR-4 Promote a balanced and integrated public transit system to maximize mobility in a safe and efficient manner.
  - CIR-P4.1 The County supports public transit as a viable and attractive alternative to the use of single occupant motor vehicles.

- CIR-P4.2 The County supports improved public transit service to be determined through the public process to identify unmet needs and prioritize feasible solutions. Potential improvements could include serving an expanded geographic area, more frequent buses at key times of the day and improved transit amenities such as bus shelters.
- CIR-P4.3 The County supports public transportation programs that promote access to shopping, employment, education, health-care and recreation.
- CIR-P4.4 The County encourages the Butte County Association of Governments to provide shuttles from local transit stations to special event centers.
- CIR-P4.5 The County continues to support local Amtrak passenger services.
- CIR-P4.6 New development projects in areas served by existing or planned transit shall provide fixed transit facilities such as bus shelters and pullouts, according to expected demand.

- Goal CIR-5 Provide a safe, continuous, integrated and accessible bicycle system, so as to encourage the use of the bicycle as a viable transportation mode and as a form of recreation and exercise.
  - CIR-P5.1 Bicycle facilities shall be developed in accordance with the County's adopted Bicycle Master Plan.
  - CIR-P5.2 New bicycle routes and paths shall create a safe bicycle environment.
  - CIR-P5.3 The bicycle system shall be integrated with other transportation modes by connecting bicycle routes and transit stops, providing secure bicycle parking facilities and supporting efforts to expand accommodation of bicycles aboard buses.
  - CIR-P5.4 Transportation service providers shall be encouraged to incorporate bicycle storage facilities into bus stops and rail stations.
  - CIR-P5.5 Construction or expansion of major arterials shall incorporate Class II bicycle facilities whenever feasible. Class III Bike routes will be considered where appropriate.
  - CIR-P5.6 Residential development projects shall incorporate internal circulation networks that encourage bicycle use and that connect to the external bicycle circulation system.
  - CIR-P5.7 Owners of apartment complexes and major commercial, office, industrial and educational sites shall provide safe, plentiful and centrally located bicycle parking facilities.
  - CIR-P5.8 All County facilities and park-and-ride lots shall provide appropriate bicycle amenities, including bicycle racks and storage facilities.

- Goal CIR-6 Support a balanced and integrated road and highway network that maximizes the mobility of people and goods in a safe, efficient manner.
    - CIR-P6.1 The level of service for County-maintained roads within the unincorporated areas of the county but outside municipalities' sphere of influences (SOIs) shall be level of service (LOS) C or better during the PM peak hour. Within a municipality's SOI, the level of service shall meet the municipality's level of service policy.
    - CIR-P6.2 The level of service on State Highways should at least match the concept level of service for the facility, as defined by Caltrans.
    - CIR-P6.3 Project approval shall be conditioned on the provision of roadway improvements to meet the level of service standards in policies CIR-P6.1 and CIR-P6.2. Exceptions to satisfying the level of service standards and/or constructing transportation facilities to the County's design standards may be allowed on a case-by-case basis where reducing level of service or not constructing a transportation facility to County standards would result in a clear public benefit. Such circumstances may include, but are not limited to the following:
        a. Conserving agricultural or open space land.
        b. Enhancing the agricultural economy.
        c. Protecting scenic roadways or highways.
        d. Preserving downtown community environments.
    - CIR-P6.4 Parcels adjacent to highways and significant roadways shall have only limited access to these facilities as a means to accommodate regional traffic and preserve public mobility.
    - CIR-P6.5 Street improvements within the sphere of influence of an incorporated municipality shall conform to the street standards of that municipality.
    - CIR-P6.6 Major new development projects and subdivisions, as determined by the Department of Development Services, shall prepare and implement traffic studies to assess and mitigate adverse impacts to local and regional transportation facilities.
- Goal CIR-7 Develop a transportation system that is consistent with and will support existing and proposed patterns and densities of land use and that encourages efficient land utilization.
    - CIR-P7.1 Rights-of-way needed for planned roads or expansion of existing roads, including facilities in the State highway system, shall be reserved, and land uses that would preclude development of such rights-of-way shall be prohibited.
    - CIR-P7.2 Existing road capacity available within the County road system shall be used to serve future development, unless construction of a new road will enhance circulation opportunities.
    - CIR-P7.3 New roads shall be located to encourage development near existing highway corridors and existing rural community centers.

- Goal CIR-9 Provide a circulation system that supports public safety.
    - CIR-P9.1 All new road systems, both public and private, shall provide for safe evacuation of residents and adequate access to fire and other emergency services by providing at least two means of emergency access to an interconnected collector system. New road systems will include reduction and maintenance of roadside vegetation.
    - CIR-P9.2 New development projects shall include safe routes to school where appropriate.
- Goal CIR-10 Facilitate the mobility of Butte County residents with special mobility needs.
    - CIR-P10.1 The County encourages the Butte County Association of Governments to provide transit services that meet the needs of youth and seniors, by improving connections to schools, parks, libraries, social services, medical offices and shopping.
    - CIR-P10.2 All new development projects shall meet the requirements of the Americans with Disabilities Act.
    - CIR-P10.3 Pedestrian facilities shall be designed and constructed to be accessible to all users appropriate for these facilities.
- Goal CIR-11 Promote safe, effective and efficient use of existing and future air facilities.
    - CIR-P11.1 Private airstrips and landing fields shall be located outside of flight paths to and from existing airports so that they do not present a hazard or annoyance to neighboring areas.

Conservation and Open Space Element

- Goal COS-1 Reduce greenhouse gas emissions to 1990 levels by 2020.
    - COS-P1.1 Greenhouse gas emission impacts from proposed development projects shall be evaluated as required by the California Environmental Quality Act.
    - COS-P1.2 New development projects shall mitigate greenhouse gas emissions on-site or as close to the site as possible.
    - COS-P1.3 New development should use recycled-content construction materials.
    - COS-P1.4 New development should provide above-ground and natural stormwater facilities and use building designs and materials that promote groundwater recharge.
    - COS-P1.5 New developments should have street systems that support the use of Neighborhood Electric Vehicles (NEV).
    - COS-P1.6 Recognize and promote the emerging market for agricultural producers to provide carbon sequestration services.
    - COS-P1.7 New commercial and institutional development projects shall provide prioritized parking for electric vehicles, hybrid vehicles, alternative fuel vehicles and carpools.

Health and Safety Element

- Goal HS-15 Ensure that Butte County is prepared for emergency situations.
    - HS-P15.3 Emergency access routes shall be kept free of traffic impediments.
    - HS-P15.4 Streets and developed properties shall be clearly marked to enable easy identification.

Upper Ridge Community Plan

The Butte County Board of Supervisors adopted the Upper Ridge Community Plan (URCP) on March 8, 2022. General Plan 2040 Policy LU-P15.2 states: this General Plan hereby incorporates by reference the policies and actions identified in the Upper Ridge Community Plan for the corresponding planning area. The following strategies are included in the existing URCP regarding transportation and circulation. The numbering is from the plan and therefore may not be consecutive.

Circulation Strategies

- **Strategy CIR-1.1**: Form an Evacuation Taskforce that could weigh the constraints and benefits of the five potential additional evacuation routes described above, and prioritize one or two proposed routes to be improved in the near term.
- **Strategy CIR-1.2:** Prioritize near-term roadway improvements on existing evacuation routes to improve their emergency function (e.g., widening, adding passing zones on narrow routes, and adding pull-outs). These roadways include, but are not limited to:
    - Add new roadway connections, where feasible and beneficial, to convert dead-end roads to continuous routes, providing improved access for both every day and emergency functions.
    - Work with property owners to investigate establishing certain private roads as publicly accessible evacuation routes to provide connections to primary evacuation routes.
- **Strategy CIR-1.3:** Develop a comprehensive, well-signed evacuation network with an updated evacuation map that shows evacuation routes on public roadways as well as accessible private roadways.
- **Strategy CIR-2.1**: Improve the shoulders of Skyway within the Plan Area, from the Coutolenc/Skyway intersection to Lake De Sabla (Figure 6.1).
- **Strategy CIR-2.2:** Support the development of plans for and implementation of the grant-funded Magalia Reservoir-Paradise Lake Loop Trail. As part of this effort, provide trailheads and connector trails from the Upper Ridge Plan's residential neighborhoods to the Loop Trail, potentially from Steiffer Road and one of the streets leading east from Holmwood Drive.
- **Strategy CIR-2.3:** Develop plans for north and south connectors to the Magalia Reservoir-Paradise Lake Loop Trail. These connectors should include a southern leg leading from Yellowstone Kelley Trail to the Loop Trail at Magalia Reservoir and a northern leg leading from Paradise Lake to Lake De Sabla. When planning this trail, ensure trailheads and connector trails from the Upper Ridge Plan's residential neighborhoods to the Loop Trail are provided.

- **Strategy CIR-2.4:** Develop plans for a new east-west trail connecting the existing Magalia Community Center to the Lakeridge Circle area, including the proposed new Lakeridge Park (see Chapter 5 for details regarding Lakeridge Park).
- **Strategy CIR-2.5:** Provide enhanced transit bus stops with improved bus stop signage, lighting, and seating at the two transit stops in each direction on Lakeridge Circle to create better access and encourage transit ridership to Magalia Center.
- **Strategy CIR-2.6:** Seek funding to acquire the remaining Union Pacific Railroad right-of-way within the Plan Area for public use as trails.

Butte County Association of Governments Plans

The Butte County Association of Governments (BCAG) has prepared several transportation-related plans for Butte County, as described herein.

Butte County 2020 Regional Transportation Plan/Sustainable Communities Strategy

The *2020-2040 Regional Transportation Plan* (RTP/SCS) is a federally mandated long-range, fiscally constrained multi-modal transportation plan for Butte County. The Butte County 2020 RTP/SCS specifies the policies, projects, and programs necessary over a 20-year period between 2020 and 2040 to maintain, manage, and improve the region's transportation system. BCAG is the federally designated MPO and the state-designated Regional Transportation Planning Agency for Butte County. The RTP/SCS provides a foundation for transportation decisions by local, regional, and state officials. This foundation is based on a vision of an efficient and environmentally sound multi-modal system. The RTP/SCS is the region's long-range plan to meet the requirements of California's Sustainable Communities and Climate Change Act of 2008 (SB 375), which calls on regions throughout California to develop an SCS that demonstrates the integration of land use, housing, and transportation for the purpose of reducing GHG emissions from passenger vehicles. The RTP/SCS is intended to be consistent with the *California Transportation Plan* developed by Caltrans. The RTP was developed by BCAG in cooperation with Caltrans, Butte County, and other stakeholders. However, BCAG maintains a decision-making role; Butte County does not make decisions regarding the RTP. The 2020-2040 RTP includes a number of planned capacity improvements and transit projects that are anticipated to receive funding by 2040.

BCAG maintains a travel demand forecasting (TDF) traffic model for the Butte County region that is used to estimate the average daily traffic volumes on the major area roads in response to planned population and employment growth, changes in transportation infrastructure, and policy assumptions; it also provides a consistent platform to analyze different land use and transportation scenarios. The model's output includes projections of traffic volumes on major roads and important metrics such as VMT needed for emissions forecasts and environmental impact analysis. The most recent BCAG traffic model data forecasts traffic volumes for 2020, 2035, and 2040.

In computing the TDF model results for 2040, the model includes a series of capacity-increasing roadway projects that are assumed to be constructed by 2040 and are thus incorporated in the 2040 model roadway network. These capacity-increasing roadway projects are summarized in Table 5-16.1, *BCAG 2020 RTP/SCS Traffic Model Assumed Regional Capacity-Increasing Projects*.

TABLE 5.16-1 BCAG 2020 RTP/SCS TRAFFIC MODEL ASSUMED REGIONAL CAPACITY-INCREASING PROJECTS

Title	Segment		Project Description
	Start	End	
Central House Rd Over Wymann Ravine Bridge	0.2 miles east of SR 70	---	Replace the existing 1-lane structurally deficient bridge with a new 2-lane bridge. Bridge No. 12C011
SR 70 Passing Lanes (Segment 1)	0.1 mile south of Palermo Rd	Ophir Rd	SR 70, from 0.1 mile south of Palermo Road, to just north of Ophir Road/Pacific Heights intersection. Widen from 2 to 4 lanes. (EA 3H71U). Capacity increasing portion only.
SR 70 Passing Lanes (Segment 2)	Cox Ln	0.1 mile south of Palermo Rd	On SR 70, from Cox Lane to 0.1 mile south of Palermo Road. Widen from 2 to 4 lanes. (EA 3F281 & 3H720)
SR 70 Passing Lanes (Segment 3)	0.4 mile south of E. Gridley Rd	0.3 mile south of Butte/Yuba County line	On SR 70 from 0.4 mile South or East of Gridley Road to 0.3 miles South of Butte/Yuba County line. Widen from 2 to 4 lanes. (EA 3H930 & 3F282)
Bruce Rd Bridge Replacement Project	Bruce Rd	Little Chico Creek	In Chico, 0.5 miles south of Humboldt Rd on Bruce Rd over Little Chico Creek. Project includes replacement of an existing 2-lane functionally obsolete bridge with a new 4-lane bridge, including reconstruction of bridge approaches. New bridge incorporates a Class I bicycle facility.
Guynn Rd over Lindo Channel Bridge Project	North of W Lindo Ave	---	Replace the existing 1-lane structurally deficient bridge with a new 2-lane bridge. Bridge No. 12C0066
Bruce Rd. Widening	Skyway	SR 32	Widen roadway (bridge included as separate project).
Commerce Court Connection	Ivy St	Park Ave	Connect existing Commerce Ct. to Park Avenue via Westfield Lane.
E. 20th Street Widening	Forest Ave	Bruce Rd	Widen from 1 lane per direction to 2 lanes per direction with median.
Eaton Rd Widening	Hicks Ln	Cohasset Rd	Widen and extend to 4 lanes with median and new bridge at Sycamore Creek Tributary.
Eaton Rd Widening	Cohasset Rd	Manzanita Ave	Widen to 4 lanes with median.
Esplanade Widening	Eaton Rd	Nord Hwy	Widen to 4 lanes with median. Extend median south to Shasta Ave.
Mariposa Ave Connection	Glenshire Ln	Eaton Rd	Add new arterial connection. 1 lane per direction.
Notre Dame Boulevard Connection	Little Chico Creek	E. 20th St	Construct new 2-lane street and bridge at Little Chico Creek.
Midway Widening	Hegan Ln	Park Ave	Widen road from 2 to 4 lanes with a median.
SR 99 Auxiliary Lanes (Segment 1)	Skyway I/C	E. 20th St I/C	Construct auxiliary lanes to the outside.
SR 99 Auxiliary Lanes (Segment 2)	E. 20th St I/C	SR 32 I/C	Construct auxiliary lanes to the outside. CP 18057.

Title	Segment		Project Description
	Start	End	
SR 32 Widening (Segment 3)	El Monte Ave	Bruce Rd	Widen from 2 to 4 lanes
SR 32 Widening (Segment 4)	Bruce Rd	Yosemite Dr	Widen from 2 to 4 lanes with signal at Yosemite Dr.
SR 99 / Eaton Rd Interchange	Esplanade	Hicks Ln	Widen overpass structure (2 to 4 lanes) and ramps, construct dual- lane roundabouts.
SR 99 / Cohasset Road Interchange	SR 99 @ Cohasset Rd		Construct southbound direct onramp.
Cohasset Road Widening (Airport Blvd to Eaton Rd	Eaton Rd	Airport Blvd	Widen Cohasset Road (2 to 4 lanes) from Eaton Rd to Airport Blvd
MLK Blvd Widening (E. Park Ave to E. 20th St)	E. Park Ave	E. 20th St	Widen MLK Blvd (2 to 4 lanes) from Park Ave to E. 20th St.
Olive Highway Widening (Oro- Dam Blvd to Foothill Blvd)	Oro-Dam Blvd	Foothill Blvd	Widen Olive Hwy from 2 to 3 lanes from Oro-Dam Blvd to Foothill Blvd. Additional lane will be added to eastbound travel.

Source: BCAG 2020a.

Coordinated Public Transit-Human Services Transportation Plan

BCAG produced a Coordinated Public Transit-Human Services Transportation Plan for Butte County in 2008, which identifies existing public transit services in the county, unmet transit needs, and recommendations for providing future services.

Transit and Non-Motorized Plan

The Butte County Transit & Non-Motorized Plan outlines transit service and pedestrian and bicycling recommendations to expand mobility, improve intermodality, and result in a set of recommended local and intercity public transit services, improved bikeway and bicycle paths, and improved pedestrian access to transit. These recommendations are integrated to the RTP/SCS. The plan was updated in 2021 as part of the Post Camp Fire Study. The updated plan identifies efficiencies in urban and rural transit service needed to manage the recent population shifts, increased traffic congestion, and service to temporary housing for Camp Fire evacuees. The plan also provides near- and long-term recommendations to improve B-Line ridership and operations and access to transit by walking or bicycling.

County Regulations and Policies

Level of Service Policies

Similar to the State and local entities, counties establish LOS policies that define acceptable operations on county roadways outside of incorporated areas. The existing Butte County General Plan Circulation Element, adopted in May 1984, establishes LOS C as the standard for acceptable operations, except where fiscal,

environmental, or site constraints make achieving LOS C operations cost prohibitive and LOS D conditions are considered acceptable.

On October 26, 2010, Butte County established a new LOS policy. Specifically, the policy requires an LOS C or better during the PM peak hours in unincorporated areas outside of the municipalities' spheres of influence (SOI). Within the municipalities' SOIs, the LOS must meet the municipality's LOS policy.

Improvement Standards

The County provides guidance on the design of roadway facilities though its Improvement Standards, which were adopted in 2006 and updated in 2009 to include standards for the Paradise SOI. They have last been revised in 2020. This document includes minimum standards for the design and preparation of plans for the construction of streets, highways, alleys, drainage, sewerage, street lighting, water supply facilities, fire protection, and related public improvements. The standards also provide guidance on required site access and driveway standards in regard to emergency access.

Bicycle Plan

Butte County adopted its Bicycle Plan on June 14, 2011, which aims to encourage the use of bicycling as a mode of transportation and recreation in Butte County. The 2011 Butte County Bicycle Plan provides Butte County's vision for making bicycling an integral part of the transportation system with its unincorporated limits. The plan includes emphasis on regional connectivity between the local cities of Biggs, Chico, Gridley, Oroville, and the Town of Paradise, in addition to the various rural communities and recreational opportunities that exist within Butte County. The plan will also assist Butte County in its efforts to safely and equitably provide contiguous bicycle facilities in the future as well as implement roadway projects that are bicycle friendly throughout the unincorporated areas.

The County also adopted the Countywide Bikeway Master Plan in 1998, which is currently in the process of being updated for adoption as the Butte County Bikeway Master Plan for the unincorporated area. The proposed Bikeway Master Plan provides maps showing planned future bikeway facilities in the unincorporated county area, as well as connectivity to existing and proposed bikeway facilities within the municipal jurisdictions.

Airport Land Use Compatibility Plan

County regulations guiding air traffic stem largely from the ALUCP. In addition to guiding land use development in the vicinity airports in Butte County, this plan is also meant to address safety issues, including any design or placement of an airport facility that would lead to additional air traffic hazards.

BCAG SB 743 Implementation Guide and Butte County Transportation Thresholds

In June 2021, the BCAG published its SB 743 Implementation Study to assist BCAG member agencies with understanding the specific questions that need to be addressed when making these determinations and to provide research, analysis, and other evidence to support their final SB 743 implementation decisions. The report discusses the following three options for establishing a threshold for VMT (BCAG 2021a):

1. CEQA Guidelines. Section 15064.3 can be interpreted as establishing a threshold where 'any' increase in VMT above baseline conditions would constitute a significant VMT impact. This threshold is recommended in the Office of Planning and Research (OPR) Technical Advisory for retail land use projects. Caltrans also supports this threshold for roadway capacity projects stating, "Within MPO areas…, a project that results in an increase in VMT when comparing the future build alternative to the future no-build alternative (i.e., the VMT is higher under the future build scenario) will generally be considered significant…"
2. OPR Technical Advisory. The OPR Technical Advisory contains VMT threshold recommendations that vary by type of project and type of land use, as follows.
    a. Residential projects – A proposed project exceeding a level of 15 percent below existing (baseline) VMT per capita may indicate a significant transportation impact. Existing VMT per capita may be measured as regional VMT per capita or as city VMT per capita.
    b. Office projects – A proposed project exceeding a level of 15 percent below existing (baseline) regional VMT per employee may indicate a significant transportation impact.
    c. Retail projects greater than 50,000 square feet – A net increase in total VMT may indicate a significant transportation impact.
    d. Mixed-use projects – Lead agencies can evaluate each component of a mixed-use project independently and apply the significance threshold for each project type included (e.g., residential and retail). Alternatively, a lead agency may consider only the project's dominant use. In the analysis of each use, a project should take credit for internal capture.
    e. Other project types – The OPR Technical Advisory recommends that lead agencies consider the CEQA statute and CEQA Guidelines sections cited above in the development of thresholds for other project types. In addition, the Technical Advisory advises avoiding projects or actions that would increase total VMT or encourage development in less travel-efficient locations. This information may indicate that any increase in total VMT could constitute a significant impact.
    f. Redevelopment projects – Where a project replaces existing VMT-generating land uses, if the replacement leads to a net overall decrease in VMT, the project would lead to a less-than-significant transportation impact. If the project leads to a net overall increase in VMT, then the thresholds described above should apply.
    g. Transportation projects – Lead agencies should develop a project-level threshold based on the VMT levels required to achieve the GHG reduction goals of the CARB 2017 Scoping Plan and Mobile Source Strategy. Based on analysis documented in the *CARB 2017 Scoping Plan-Identified VMT Reductions and Relationship to State Climate Goals*, (CARB 2019), California has a VMT growth capacity of 6.5 percent by 2050 above a 2015-2018 baseline average. For Butte County, this equates to about 326,350 weekday VMT in 2050.
3. Non-Interference. This option would focus on not interfering with the state's ability to meet VMT/GHG reduction goals. This threshold recognizes that VMT reduction is tied to state GHG reduction goals and would allow the county to assess VMT impacts of projects based on whether they would interfere or prevent the state from taking actions necessary to reduce VMT consistent with state goals. The state has the authority to implement a wide variety of actions that could effectively reduce VMT, such as higher gas taxes, a new VMT tax, new tolls, etc. Local projects that do not interfere with this authority could reflect that outcome as part of their VMT impact analysis using this threshold.

On April 26, 2022, the Butte County Board of Supervisors, by resolution (No. 22-065), adopted the Interim Transportation Threshold of Significance under the CEQA for VMT and the update to Butte County's Environmental Review Guidelines. Under these thresholds, the County states that the recommended approach to project VMT analysis is a mix of the three options presented in the BCAG report. It further states that, as the County is on track to meet the state GHG reduction goals by 2050, demonstrating compliance with the General Plan and the County Climate Action Plan (CAP) is an essential start to review of any project (Butte County 2022). As part of the screening process, projects would be evaluated for both proximity to incorporated areas or established communities and for including VMT measures of the adjacent agency in the project design (Butte County 2022). If a project is near an incorporated area or established community, then an effort must be made to ensure that the plans of the adjacent city, or the land use pattern of the established community, encourages connectivity and mobility options. If a project is outside of these areas, then compliance with the General Plan is required along with provisions for mixed land use and pedestrian access. If a project would change the general plan, then an evaluation of the VMT impacts is required as well as a determination that the project will not impede meeting the County year 2050 GHG per-capita target, as shown in the CAP (Butte County 2022).

Butte County Climate Action Plan

The 2021 CAP is Butte County's strategic plan to reduce GHG emissions in the unincorporated county. The 2021 CAP allows Butte County decision makers, staff, and the community to understand the sources and magnitude of local GHG emissions, reduce GHG emissions, and prioritize steps to achieve reduction targets.

The 2021 CAP is an update of the 2014 CAP, providing updated information, an expanded set of GHG reduction strategies, and a planning horizon out to 2050. The 2021 CAP contains an inventory of the community's GHG emissions from the agriculture, transportation, energy, solid waste, off-road equipment, water and wastewater, and stationary source sectors. The 2021 CAP also includes informational GHG emissions from the land use and sequestration sector and the wildfire and controlled burn sector. The 2021 CAP also presents a work plan and monitoring program for the County to track progress over time.

Municipal Regulations and Policies

Butte County includes five incorporated municipalities: Biggs, Chico, Gridley, Oroville, and Paradise. The roadway capacity LOS policies adopted by each of these jurisdictions guides what is considered to be acceptable operations on roadways in their jurisdictional boundaries and respective SOIs. Biggs, Gridley, and Paradise have adopted LOS C policies. Oroville has adopted, and Chico is considering adopting, a flexible LOS D policy that allows for LOS E to be considered acceptable on select facilities where other constraints make achieving LOS D operations infeasible.

Paradise Transportation Master Plan

The Paradise Transportation Master Plan (TMP) is scheduled for competition in 2022. Key components include a traffic needs analysis, traffic evacuation planning, economic/redevelopment support, an active transportation plan, new roadway standards, and major projects coordination (Paradise 2022). While Paradise is an incorporated town and does not fall under the jurisdiction of this General Plan update, the Upper Ridge/Magalia communities to the north are users of the Town's roadways. Town of Paradise General

Plan Circulation Element Policy CP-5 states: Methods of recovering costs associated with use of roadways within the Town of Paradise by residents of the Upper Ridge should be explored, including imposition of development impact fees (Town of Paradise 1994). Therefore, consistency with this TMP should be considered for all subsequent projects under General Plan 2040 in the Upper Ridge Community.

5.16.1.2 EXISTING CONDITIONS

Vehicular Circulation

Freeways

Butte County has three segments of four-lane limited-access freeway or expressway. One segment is State Route (SR) 70 between 0.4 miles south of SR 162 through Oroville to the junction of SR 149. The other segment is SR 99 starting at the SR 99/SR 149 intersection and continuing through Chico to 1 mile north of the Eaton Road interchange. These segments are part of the north-south travel corridor of SR 99 and part of SR 70, as described below. SR 149 links the expressways on SR 99 and SR 70.

Regional Highways

Six designated State Routes (SRs) serve as regional highways in Butte County. These highways, which provide the primary access through the county, are listed in Table 5.16-2.

TABLE 5.16-2 REGIONAL HIGHWAYS IN BUTTE COUNTY

Regional Highway	Description/Function
SR 99	SR 99 travels north-south, connecting Butte County with Yuba City, Marysville, and Sacramento to the south and Red Bluff to the northwest. It directly serves the communities of Gridley, Biggs, and Chico.
SR 70	SR 70 begins in Sutter County, where it splits from SR 99 south of Yuba City/Marysville. It serves Oroville and then continues to the northeast into Plumas County.
SR 149	SR 149 connects the Chico area to Oroville. This 4.62-mile highway connects SR 70 north of Oroville with SR 99 south of Chico.
SR 191	SR 191 is an access route to the Paradise Ridge area and to Butte College. It begins at SR 70 approximately 1.4 miles northeast of the junction with SR 149 and continues north to the Town of Paradise.
SR 162	SR 162 provides east/west access for Oroville and the southern part of Butte County. It runs from the Glenn County line to the foothills east of Oroville, serving the Oroville Dam recreation area.
SR 32	SR 32 is an east-west highway between Orland and Chico. It also runs northeast from Chico through Forest Ranch toward Lake Almanor.

Source: BCAG 2020a.

Other Significant Roadways

A number of regionally significant arterial and collector roadways in Butte County serve the county's regional population areas. Most of these are part of the County's roadway network.

The RTP/SCS identifies regionally significant roadways, including the entire state highway system and all roads designated as either arterial or collector, as classified by each local jurisdiction. In addition, roadways that meet one or more of the following criteria are identified as other roads of regional significance:

- Principal roadways connecting Butte County with other regions or counties
- Principal roadways connecting urban areas
- Roadways that provide access to significant recreational, commercial, industrial, or institutional activities
- Roadways that are primary emergency evacuation routes for urban areas.

These roadways are described in Table 5.16-3 and illustrated in Figure 5.16-1, *Existing Transportation System*.

TABLE 5.16-3 REGIONALLY SIGNIFICANT ARTERIAL AND COLLECTOR ROADWAYS SERVING THE UNINCORPORATED COUNTY AREA

Roadway	Description/Function
Hamilton-Nord-Cana Highway	Two-lane north-south roadway that runs between SR 32 and SR 99 west of Chico.
West Sacramento Avenue	East-west roadway running between River Road and SR 32 west of Chico and continuing to Esplanade within the city. It has two lanes west of SR 32.
Chico River Road	Two-lane east-west roadway running between River Road and SR 32 west of Chico.
Ord Ferry Road	Two-lane east-west road between the Sacramento River at Ord Bend and Dayton Road.
Durham-Dayton Highway	Two-lane continuation of Ord Ferry Road from Dayton Road to SR 99.
Midway	Two-lane road that runs parallel and west of SR 99 between SR 162 and the end of Park Avenue south of Chico.
Colusa Highway	Two-lane east-west roadway running between the Colusa County line and West Biggs Gridley Road in the southwest portion of the county.
Cohasset Road	Five-lane north-south roadway beginning at SR 99 north of Chico to Eaton Road and two-lane from Eaton Road running to the Tehama County line.
Esplanade	A north-south roadway running from SR 99 in the area north of Chico and continuing through Chico to Main Street and Broadway, which form three-lane components of a north-south one-way couplet in the downtown area.
Skyway	An east-west link between south Chico and Paradise and a north-south road from Paradise to Humboldt Road at Butte Meadows. It has four lanes from Park Avenue to Bille Road in the Town of Paradise, with the four lanes becoming divided approximately from Honey Run Road to the Paradise Town limits. It has two lanes elsewhere.
Durham-Pentz Road	Two-lane continuation of Durham-Dayton Highway running east-west between SR 99 and Pentz Road.
Pentz Road	Two-lane north-south road running from SR 70 north of Oroville to Skyway north of Paradise.
Cherokee Road	Two-lane road running north-south between Table Mountain Boulevard in Oroville and SR 70 north of Oroville.
Forbestown Road	Two-lane east-west roadway running between SR 162 east of Oroville and La Porte Road near the Yuba County line.
Oroville-Bangor Highway	Two-lane road running east-west from Lincoln Boulevard to Miners Ranch Road and north-south from Miners Ranch Road to La Porte Road in the southeast part of the county.
Lower Wyandotte Road	Two-lane road running east-west from Foothill Boulevard to Upper Palermo Road and north-south from there to SR 162.

Roadway	Description/Function
Upper Palermo Road and the Palermo-Honcut Highway	Two-lane roads running generally north-south between Lower Wyandotte Road and Honcut.
La Porte Road	Two-lane roadway running in a northeasterly direction from the Yuba County line to the Plumas County line roughly following the southeast boundary of Butte County.
Palermo Road	Two-lane road running east-west from SR 70 to the Palermo-Honcut Highway south of Oroville.
Table Mountain Boulevard	Roadway running roughly parallel to SR 70 in a northerly direction from Montgomery Street in Oroville to SR 70 north of SR 149. It is generally a two-lane road, with segments that are three, four, and five lanes in Oroville.
East Oroville Dam Boulevard	Oroville Dam Boulevard continues to run east of SR 162 at the Olive Highway, after which it becomes East Oroville Dam Boulevard from east of Foothill Boulevard to the Oroville Dam. It is generally a two-lane road. The unincorporated county portion runs roughly from Glen Drive easterly to the Oroville Dam.
Lumpkin Road	Two-lane road running southeasterly from Forbestown Road to the east junction of the Lumpkin-LaPorte Road near Feather Falls.
Honey Run Road, Centerville Road, and Nimshew Road	A series of two-lane roads running roughly parallel to and north of Skyway between Chico and Paradise.
Oroville-Quincy Highway	Two-lane continuation of SR 162 east of Oroville, between Foreman Creek Road and the Plumas County line.
Larkin Road and Biggs East Highway	Two-lane roads running between SR 162 in the Thermalito area west of Oroville to SR 99 near Biggs and Gridley.
East Gridley Road	Two-lane road running east-west between SR 99 and SR 70 east of Gridley.

Source: BCAG 2020a.

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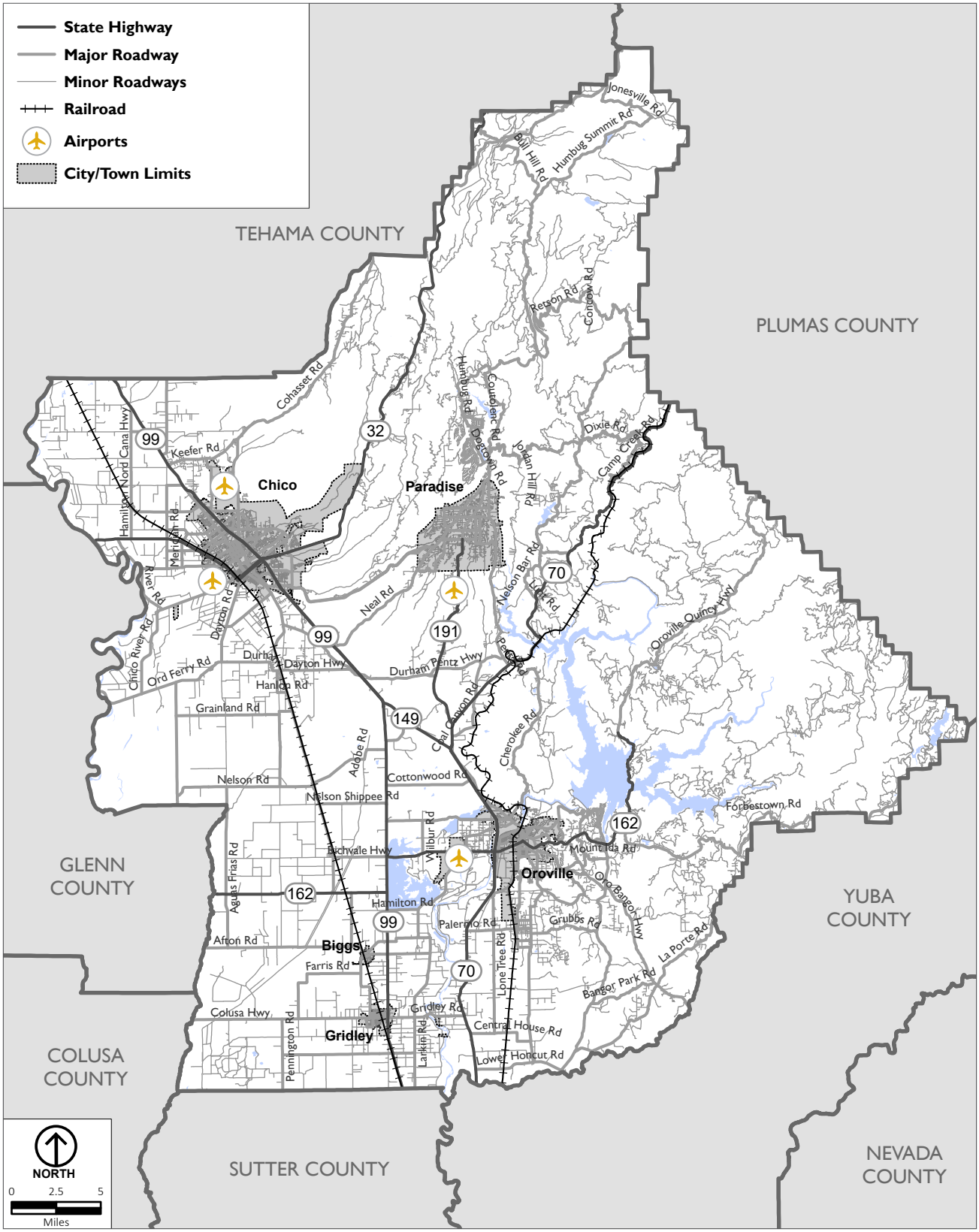

Source: Butte County GIS, 2021.

Figure 5.16-1
Existing Transportation System

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Collison Data Analysis

Table 5.16-4 shows the number of fatal and injury collisions in Butte County from 2012 to 2018. The data show all reported collisions, including collisions that occurred on roads maintained by Caltrans, Butte County, and local cities. While there is no clear trend in pedestrian-vehicle collisions, there is a steady decline in total bicycle collisions, which may be related to construction of bike facilities over the past decade. There was a percent increase in total collisions in 2016 by about 17 percent then the total number of collisions remained constant through 2018. These numbers should be reviewed in the context of VMT to understand how various factors that include the completion of safety projects, regional population growth, land use changes, and increased traffic volumes influence historical collision data.

TABLE 5.16-4 SUMMARY OF BUTTE COUNTY INJURY AND FATAL COLLISIONS (2012-2018)

	Total Collisions			Pedestrian-Vehicle Collisions			Bicyclist-Vehicle Collisions		
Year	Injury	Fatality	All Collisions	Injury	Fatality	All Collisions	Injury	Fatality	All Collisions
2012	98	23	888	12	3	48	6	4	90
2013	88	19	872	11	5	68	7	3	84
2014	97	22	878	11	0	53	3	1	70
2015	97	31	878	9	9	54	16	0	75
2016	98	32	1,029	16	12	70	4	1	76
2017	114	33	1,022	12	6	71	5	4	62
2018	158	36	1,010	14	6	51	14	3	72
Total	750	196	6,577	85	41	415	55	16	529

Source: BCAG 2020a.

Figure 5.16-2 shows the collisions involving bicyclists and motorists that occurred in Butte County over the five-year period of 2014 to 2018. Figure 5.16-3 shows the collisions that occurred over the same five-year period involving pedestrians and motorists. As shown in Table 5.16-4 with data from the BCAG RTP/SCS, a total of 6,577 collisions were reported over the seven-year period of 2012 to 2018. These statistics illustrate that the vast majority of collisions involving bicyclists and pedestrians occurred in the incorporated cities in Butte County.

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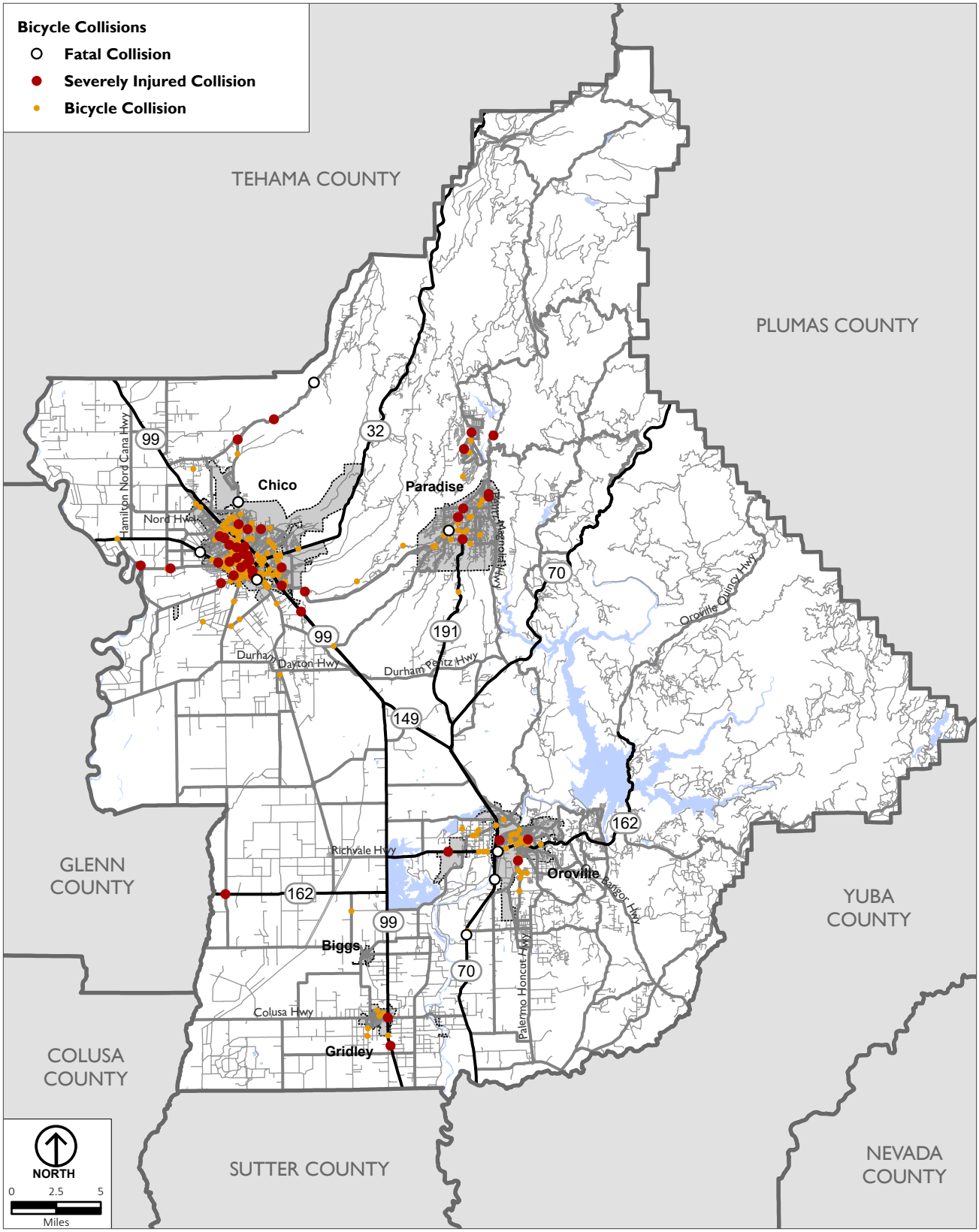
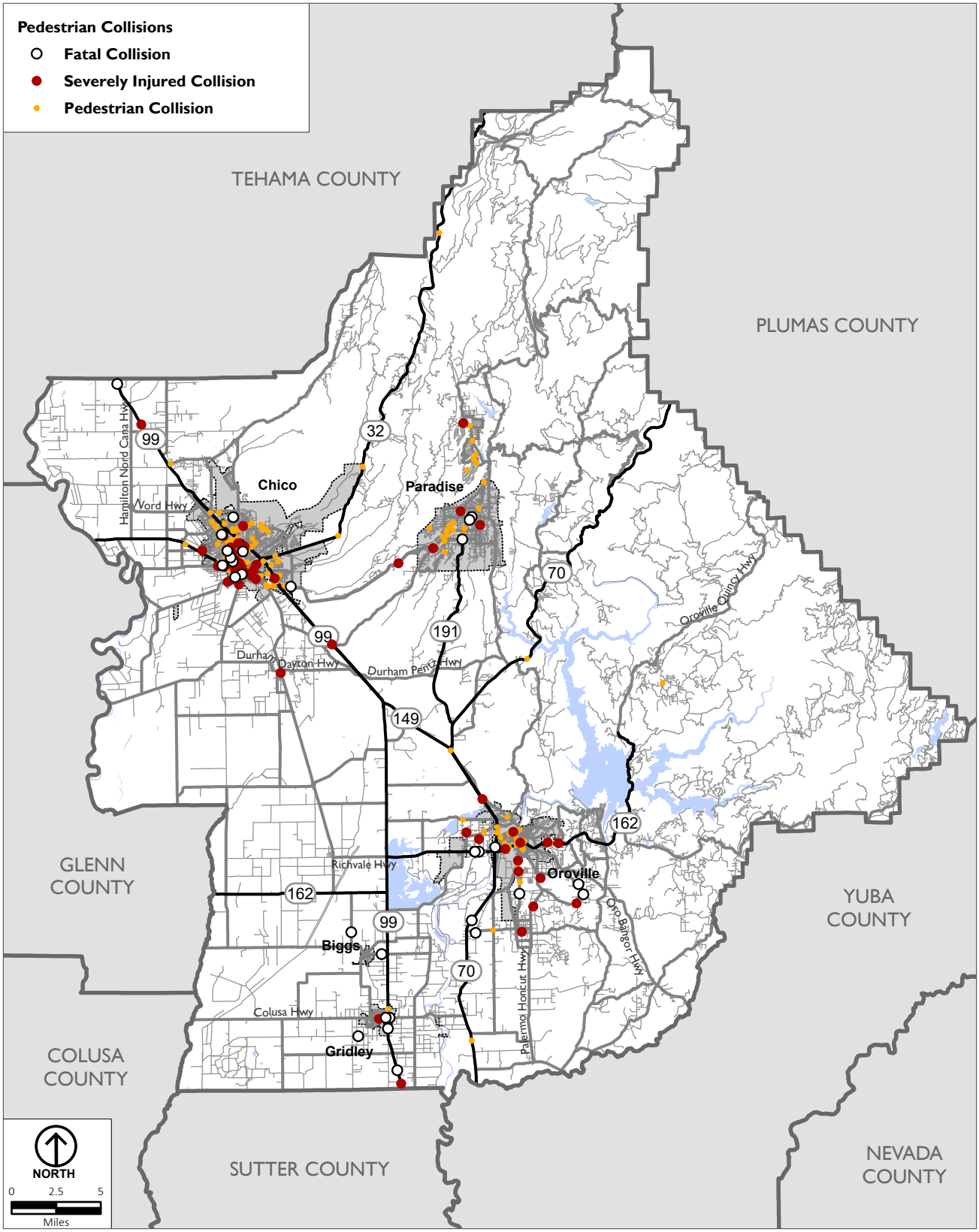


Source: California Highway Patrol (CHP). Statewide Integrated Traffic Records System (SWITRS).

Figure 5.16-2

Bicycle Collisions, 2014-2018



Source: California Highway Patrol (CHP). Statewide Integrated Traffic Records System (SWITRS).

Figure 5.16-3

Pedestrian Collisions, 2014-2018

Public Transit System

This section describes existing and planned transit services and facilities in unincorporated Butte County.

Similar to most rural areas in California, the automobile is the primary mode of travel in Butte County. The RTP, Butte County General Plan, and the general plans of local jurisdictions support a balanced transportation system that incorporates mass transit, bicycling, walking, and other modes of travel beyond the private automobile.

Fixed-Route Public Transit

The Butte County region transit service is primarily provided by BCAG as the owner/operator for the Butte Regional Transit (B-Line). B-Line provides both fixed-route and paratransit services to Chico, Oroville, Paradise, Gridley, Biggs, and the unincorporated county. BCAG is in the process of updating the Transit and Non-Motorized Plan to develop new short-, mid-, and long-term recommendations to improve B-Line service. As documented in the RTP/SCS, recommendations for mid-term (2020 through 2027) and long-term (to 2040) time horizons include investments to speed transit and serve portions of Butte County, primarily in Chico, where transit investments will align with projected development.

B-Line operates three routes for inter-city transportation between Chico, Paradise, Oroville, and the Gridley-Biggs area. One line runs between Paradise and Chico, a second between Oroville and Chico, and a third between Paradise, Oroville, and Gridley-Biggs.

Overall, the B-Line system uses 33 standard buses, with two of these vehicles powered by compressed natural gas (CNG). All buses are equipped with low-floor ramps and include a wheelchair securement area with space for two wheelchairs, as well as front-mounted bicycle racks.

For inter-city travel, Route 40/41 provides eight round trips daily connecting Chico and Paradise; Route 20 provides 12 to 13 round trips daily connecting Chico and Oroville; and Route 30/31 provides three round trips daily connecting Paradise, Oroville, Gridley, and Biggs. Extended service is provided to Paradise Pines and Magalia. Transit service is operated between 5:50 a.m. and 8:00 p.m. Monday through Friday, with weekend service between 7:50 a.m. and 8:55 p.m.

There are 13 fixed routes in Chico, 9 of which connect with the B-Line inter-city routes at First and Main Streets and/or at the Highway 32 Park-n-Ride. Operating hours are 5:50 a.m. to 10:00 p.m. Monday through Friday, and 6:25 a.m. to 9:45 p.m. on Saturday. No Sunday service is provided. Eleven primary routes operate year-round, while the two student shuttle routes are limited to when California State University (CSU) Chico is in session.

B-Line operates three 30-passenger vans in Oroville on four routes serving the City of Oroville, the County Administrative Complex, and the downtown transit center. While service is primarily within the Oroville City limits, a portion of Thermalito and South Oroville are also served. Operating hours are from 6:15 a.m. to 7:30 p.m. Monday through Friday, except for major holidays.

There is a range of fares based on type of service, with local routes priced lower than regional routes. Fares are $2.40 for regional travel, while travel within a city is $1.75. Discounted fares are available for seniors (age 65 and over), disabled people, and those with a valid Medicare card; discounted fares are $1.20 for regional travel and $0.85 for local travel. Youth (ages 6-18) ride for $1.75 for regional service and $1.25 for local service, and children under the age of 6 ride free. Monthly passes are available for $57.50 for regional service ($30.00 for discount) and $43.50 for local service ($21.50 for discount). Monthly passes are also available for youths for $40.00 for regional travel and $31.25 for local travel. Ten and two-ride passes are also available. CSU Chico students ride the B-Line for free based on a program funded by the Associated Students and the University. There are special rates for Butte College students and faculty, downtown Chico employees, and Butte County employees.

B-Line Transit had been in steady decline since 2015, culminating in a dramatic reduction as a result of the Camp Fire and COVID-19 pandemic. Total ridership fell by 41 percent over the five-year period of 2015 to 2020. While national ridership has been trending downward, the sharp decline in fiscal year (FY) 2018/19 of about 75,000 riders was exacerbated by an additional reduction of 75,000 riders in FY 2019/20.

In April 2015, BCAG adopted a new Transit and Non-Motorized Transportation Plan for the region. The purpose of the plan was to enhance transit, bike, and pedestrian modes included in the 2016 RTP/SCS. As documented in the 2020 RTP/SCS, long-term transit needs in the Town of Paradise are dependent on rebuilding after the Camp Fire. BCAG recently completed the Post-Camp Fire Regional Population & Transportation Study, which will support long-term transit planning efforts through updated estimates and forecasts of the regional population, housing, employment, and traffic data for pre-, post-, and future time periods (BCAG 2021b). Additionally, a coordinated update of the 2015 Transit and Non-Motorized Plan will be completed with the collected data.

As noted, B-Line operations were severely disrupted by the Camp Fire and the COVID-19 pandemic, which depressed passenger ridership, fares, and service hours. While the long-term impacts of COVID-19 remain to be seen, it is likely that the long-term effects of rebuilding after the Camp Fire will have a more lasting impact on transit planning. In response to these significant changes, BCAG will prepare the B-Line Routing Study to develop short-, mid-, and long-term recommendations.

Glenn County (Glenn Ride) provides eight trips per day between Willows and Chico on weekdays and three trips per day on Saturdays. There is no service on Sundays.

Demand Responsive Transportation

The transportation needs of the elderly and persons with disabilities are addressed by demand responsive systems in the local urban areas. These services are available from transit providers in Paradise, Chico, Oroville, and Gridley and generally consist of automobiles and/or wheelchair lift-equipped vans available on an on-call basis. A number of social service agencies also provide demand-responsive transit to their clients (BCAG 2020a).

B-Line Paratransit provides a door-to-door service for qualified individuals traveling within Chico, Oroville, and Paradise. The Gridley Golden Feather Flyer provides paratransit service in Gridley. B-Line Paratransit provides two types of service:

- Americans with Disabilities Act (ADA) service for qualified individuals who cannot use the fixed-route system.
- Dial-a-Ride service for use by seniors 70 years of age or older.

Service is offered from 5:50 a.m. to 10 p.m. on weekdays, 7 a.m. to 10 p.m. on Saturdays, and from 7:50 a.m. to 6 p.m. on Sundays. While B-Line Paratransit service is available to all destinations within a 0.75-mile buffer of any B-Line fixed route, supplemental service to areas of up to 3 miles outside the ADA boundaries is available at an additional cost; however, in order for service to be provided to supplemental areas, there must be a direct, easily accessible route from the core service area to the proposed destination. Trips provided outside the core service area are provided when there is sufficient time and space available. Reservations may be made from one to seven days in advance. B-Line Paratransit also accommodates a limited number of same-day requests based on available capacity.

Butte County hosts a network of social service agencies that provide specialized transportation to their clients. The largest of these is the Work Training Center (WTC), which operates 24 vehicles transporting clients throughout Butte County. Vehicle capacities vary from 8 to 18 passengers. All but two are wheelchair accessible. Service for the WTC is funded by the Far Northern Regional Center (BCAG 2020a).

Private Bus Operators

Greyhound Lines is a private common carrier that provides scheduled service to the Butte County region. The main Greyhound bus terminal is in downtown Chico at the Amtrak station. The station is served by Chico Area Transit. Greyhound offers service from Chico daily and also serves Paradise, Oroville, and Gridley, as well as destinations outside the Butte County region.

North Valley Shuttle provides service between Chico, Paradise, and Oroville and the Sacramento International Airport.

Pedestrian and Bicycle System

The unincorporated areas of Butte County have existing and planned pedestrian and bicycle facilities in both rural and urban environments. For the most part, the urban environments within the County's jurisdiction lie within the greater Chico and Oroville urban areas where the County's existing and planned pedestrian and bicycle facilities interface with the various facilities of those communities.

As mentioned previously, the adopted BCAG Transit and Non-Motorized Plan has a focus on improving the transportation network for people who walk, bike, or take transit in Butte County with recommendations for short-term and long-term changes that are within the projected financial constraints of the region. The plan includes a preferred transit route network and identifies high-priority projects to facilitate bicycling and improved pedestrian access to major transit facilities.

Pedestrian Facilities

The majority of the pedestrian facilities within the urban areas of unincorporated Butte County consist of sidewalk facilities, which were constructed in conjunction with site improvements for subdivisions and commercial development. Newer sidewalk facilities include access ramps that meet both County and ADA standards, while older facilities are being gradually upgraded to include access ramps as part of the County's Capital Improvement Program. To create uniform pedestrian corridors, sidewalk improvements should be considered where feasible to complete existing facilities that presently terminate without accessible ramps or connections to adjacent facilities.

The Butte County Public Works Department has set up the following criteria for the improvement of sidewalks within the County's jurisdiction:

- Provide access ramps and complete sidewalk improvements in areas that are adjacent to or provide routes to schools.
- Construct minimum 25-foot radius curb returns at intersections and County standard access ramps in urban areas where sidewalks already exist.
- Continue sidewalks to interconnect with those already existing to create uniform pedestrian corridors in the unincorporated urban areas of the county.

Butte County's Improvement Standards typically require proposed residential and commercial developments in the county's urban areas to construct gutters, sidewalks or walkways, public roads, proper access from public roads, and drainage facilities fronting development. Elsewhere, sidewalks are presently constructed to County Public Works Standards with a 4-foot-wide sidewalk in residential areas and a 5-foot-wide sidewalk within commercial areas, dependent on the presence of a neighborhood plan. Residential developments within the Chico urban area that have lot sizes greater than 1 acre come under a separate rural standard that presently does not require curbs, gutters, and sidewalks.

Bicycle Facilities

Since Butte County has a mild climate, bicycling is popular for both transportation and recreation.

In 2011, the County adopted the Butte County Bicycle Plan, which was prepared by Butte County Public Works. This plan was developed to encourage use of bicycling in the county's unincorporated areas by connecting local communities, parks, and other recreational areas with bicycle facilities. At the time of the development of the 2011 County Bicycle Plan, each of the five incorporated municipalities in Butte County had their own bicycle master plans.

Butte County Public Works specifications and the County Bicycle Plan identify three different classifications of bicycle facilities, which are consistent with Caltrans specifications:

- Class I Bike Paths are bikeway facilities designated for exclusive use by both bicycles and pedestrians, which are separated from, but usually adjacent to, roadways. They are usually designed for two-way travel with an 8-foot minimum width of asphalt concrete pavement and 2-foot-wide graded aggregate base shoulders wherever practical.

- Class II Bike Lanes usually consist of adjacent one-way lanes on either side of the roadway that provide for the exclusive and semi-exclusive use of bicycles within the road travel way. Class II bike lane facilities require a minimum 4-foot-wide lanes on both sides of the roadway where shoulders are present and minimum 5-foot-wide lanes where curb and gutters are present. These facilities are for the exclusive use of bicycles where they are separated from the motor vehicle lane by a six-inch painted white stripe and designated with signs and permanent pavement markings. Shared use by motor vehicles within these facilities is only permissible where indicated by broken or dashed striping.
- Class III Bike Routes may be located on roadway facilities with sufficient width for shared motor vehicle and bicycle usage and are usually only designated by signs or permanent pavement markings indicating the route.

Class IV Bikeways are not in the Butte County Public Works specifications or the County Bicycle Plan, but were introduced by the Protected Bikeways Act of 2014 (AB 1193-Ting, Chapter 495), which established Class IV Bikeways for California and required Caltrans, in cooperation with local agencies and in consultation with the existing Caltrans advisory committee dedicated to improving access for persons with disabilities, to establish design criteria for separated bikeways (Caltrans 2018). A Class IV Bikeway (separated bikeway) is a bikeway for the exclusive use of bicycles and includes a separation between the bikeway and vehicular traffic. The separation may include, but is not limited to, grade separation, flexible posts, inflexible physical barriers, or on-street parking (Caltrans 2018).

In the Chico urban area, the County currently has multiple existing Class I bike paths, including on the easterly side of the Midway extending from the Chico city limits on Fair Street south to Jones Avenue. Additionally, Class I bicycle paths are present alongside or parallel to several major arterial streets, including Nord Avenue, Cohasset Road, SR 99, Park Avenue, Midway, and Bruce Road. There are also multiple bike paths along waterways and abandoned railroads. Bidwell Park includes several bike paths that connect other bicycle facilities north and south of the park. There are also existing Class II bike lanes and Class III bike routes that connect with facilities within Chico city limits and continue within the County's jurisdiction (Butte County 2015).

In the greater Oroville area, there is one bike path along the banks of the Feather River connecting Riverbend Park and SR 70. In the Durham Area, an existing Class II bike lane facility runs south from Chico along Midway to Jones Avenue in Durham. Several multi-use trails serve the area north and west of Oroville, continuing north along SR 149 to the Butte College campus on Clark Road. For the remaining portions of the county, existing urban bikeway facilities typically fall under the jurisdictions of the Cities of Biggs and Gridley or the Town of Paradise (BCAG 2015).

The County's bikeway facilities in the unincorporated areas of Butte County are typically planned to interface with facilities planned by BCAG and the local jurisdictions. As shown in Figure 5.16-4, these include planned bikeway facilities along River Road, Chico River Road, and Old Humboldt Road in the Chico area. Bikeway facilities are also planned along Skyway, Neal Road, Pentz Road, and Midway to connect Chico with Paradise and Durham. County bikeway facilities are also planned along Table Mountain Boulevard, Larkin Road, Gridley-Colusa Highway, Olive Highway, and Miners Ranch Road, among other corridors.

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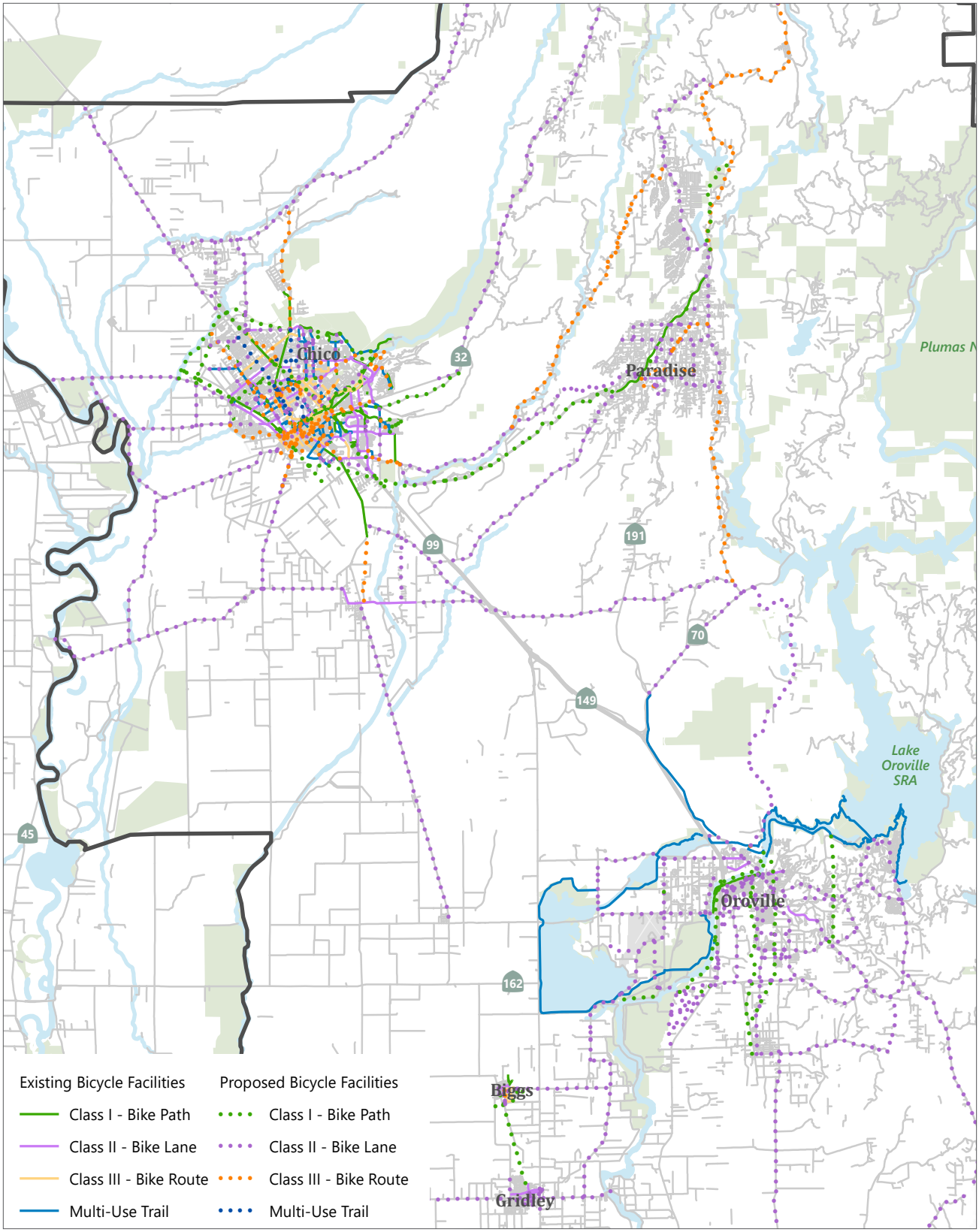

Source: Butte County Association of Governments, 2020.

Figure 5.16-4

Existing and Planned Bicycle Facilities

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Railway System

Union Pacific maintains a total of 100.4 miles of mainline track, with two mainlines, one in the western portion of Butte County (formerly the Southern Pacific mainline), and one in the eastern portion of the county. Numerous sidings are located in and around Oroville as well as further north along the Feather River. These sidings provide transportation services to a number of manufacturing industries, lumber mills, quarries, and agricultural producers.

Passenger service is offered by AMTRAK in one location in Butte County. The Coast Starlight train is the most popular long-distance train in the Amtrak system. It runs between Los Angeles and Seattle via Oakland and Sacramento. The northbound train stops in Chico at 1:55 a.m. and the southbound train stops there at 3:50 a.m.

Other train service is available from stations outside of Butte County via feeder bus service to the county. The California Zephyr runs from San Francisco to Chicago and provides local service in the San Francisco-Sacramento-Reno corridor. The Capitol Corridor rail service provides commuter inter-city service between Sacramento/Roseville and San Jose. The San Joaquin train runs from the Bay Area to Los Angeles via the Central Valley. AMTRAK operates a bus service for the northern Sacramento Valley that connects Chico and Oroville to the California Zephyr and Capitol Corridor services at Sacramento and to the San Joaquin rail service at Stockton. Feeder bus connections for intercity rail service are available more widely in Butte County. Four buses each northbound and southbound stop at Chico and Oroville to connect with the Capitol Corridor rail service and with the San Joaquin route between Oakland and Bakersfield. Subsequent bus connections from these routes allow travel to Reno, Yosemite, Las Vegas, Monterey, and throughout the Los Angeles, San Diego, and San Francisco Bay urban areas.

Caltrans completed the California State Rail Plan 2007/08–2017/18, which identified potential new intercity rail services, including the Sacramento to Redding corridor. In addition, the *North Valley Rail Vision* plans to study the extension of San Joaquin passenger rail service to Oroville, as well as merging the daily AMTRAK San Joaquin's thruway bus service with a proposed Chico to Sacramento daily commuter bus service. These strategies are intended to address the *North Valley Rail Vision* goals, which include:

- Reduced GHG emissions
- Increased multi-modal connectivity for north state counties
- Reduced VMT and expanded ridership
- Improved public health
- Benefits to disadvantaged communities in Butte and Yuba Counties
- Improved safety for evacuation corridors

Butte County will continue to monitor intercity rail expansion, needed grade separation projects, and regional collaboration on the High-Speed Rail System in California as it relates to Butte County.

Aviation System

Air transportation in Butte County is served by a number of private and public airfields and heliports serving general aviation and agricultural users. Most of these are small air facilities for private use. Commercial flights to distant or out-of-state destinations are available at the Sacramento International Airport, about 60 miles south of Oroville.

On November 15, 2017, Butte County's Airport Land Use Commission (ALUC) adopted the current Butte County Airport Land Use Compatibility Plan (ALUCP). This plan served as an update to the 2000 ALUCP. As described in the plan, the purpose of this document is to promote compatibility between the airports in Butte County and the land uses that surround them. It establishes procedures and criteria for the ALUC to review proposed land use development and affected cities within the county for compatibility with airport activity. State law requires public access airports to develop Comprehensive Land Use Plans (CLUPs), designating airport vicinity land use and clear zones. Such plans are to be adopted by the County's ALUC, which consists of representatives as follows: two city representatives, two airport managers, two County Supervisors, and one member from the public at large.

The Butte County ALUCP is distinct from individual airport master plans, which address planning issues for a specific airport. The purpose of a compatibility plan is to ensure that incompatible development does not occur on lands surrounding the airport.

The 2017 ALUCP encompasses the Chico Municipal Airport, the Oroville Municipal Airport, the privately owned Paradise Skypark Airport, and the privately owned Ranchaero Airport. These four airports are the principal facilities in Butte County and are further described herein. The locations of these airports are shown on Figure 5.16-1.

Chico Municipal Airport

The Chico Municipal Airport is the largest and busiest airport in Butte County. It is owned and operated by the City of Chico. The airport is to the north of the city, west of Cohasset Road. Over the past 50 years, urban expansion has extended towards the airport.

Current facilities accommodate business enterprise, repair service, small package or courier service, agricultural activities, medical emergency, search and rescue, pilot training, and recreational and tourism activities (BCAG 2020a).

The City of Chico adopted the Chico Municipal Airport Master Plan in 2003. The plan is a comprehensive review of existing and projected facilities and infrastructure on the airport properties as well as future traffic demands and use patterns for the airport extending into the future. In 2014, commercial service was discontinued at Chico Municipal Airport, but in 2020, the City of Chico was awarded a Federal Aviation Administration (FAA) grant to assist with restarting commercial service. This was made possible by a 2018 amendment to the FAA reauthorization that removed a rule that kept the airport from getting commercial air grants.

The majority of takeoffs and landings are private general aviation aircraft, California Department of Forestry and US Forest Service aircraft, corporate charter flights, and medical deliveries.

Chico Municipal Airport has two paved runways and a control tower. A 20-year airport master plan has been put into place to plan improvements that will expand passenger and cargo operations. The Airport Layout Plan (2009) identified a proposal to extend both runways: a nearly 2,000-foot northward addition to the primary runway for a total length of 8,600 feet and a doubling of the parallel runway to 6,000 feet in length.

Although the City of Chico developed an Airport Master Plan in 2003, much of the information and planning is based on commercial service and is no longer relevant. The 2017 Butte County ALUCP provides a compatibility map of the Chico Municipal Airport and its environs.

Oroville Municipal Airport

The Oroville Airport is owned and operated by the City of Oroville. Today, the airport occupies 877 acres and is 2.5 miles west of the city along SR 162. Although the city's SOI extends a mile west of the airport, only the airport property and some private land to the north and west are within the city boundary. The surrounding unincorporated county area includes the community of Thermalito northeast of the airport.

To the southwest and southeast lie State-owned water project and wildlife refuge lands. The airport has two paved runways.

In 2019, this airport served 40,000 operations, half of which was accounted by itinerant aviation traffic. There are 70 based aircraft at the airport.

In 2000, the City of Oroville amended its General Plan and Zoning regulations to be consistent with the Butte County ALUCP. These changes created an Airport Influence Area to make growth of the airport compatible with land use surrounding the airport. A map of this Airport Influence Area is in the 2017 Butte County ALUCP. The 2040 *Oroville General Plan* includes strategies to annex unincorporated areas within the City's SOI, including Oro Bay and Rio d'Oro, which are within the Airport Influence Area.

Paradise Skypark Airport

The Paradise Skypark Airport is 3 miles south of the Paradise town center. It is privately owned and operated and has one runway extending 3,100 feet. It is an important regional base for skydiving activities. As of July 2017, there were a total of 38 based aircraft and an average of 41 operations a day (approximately 15,000 annual operations) (Butte County 2017a).

The 2017 Butte County ALUCP provides a compatibility map of the Paradise Skypark Airport and its environs.

Ranchaero Airport

The Ranchaero Airport is a 23-acre facility on the west side of Chico. Privately owned and operated, it has one runway of 2,160 feet. Flight instruction makes up a large portion of its daily operations. Ranchaero Airport is 23 acres in size and is defined as a general aviation airport. As of 2017, the airport handled 5,000 aircraft operations per year with 34 based aircraft (Butte County 2017b).

No master plan has been prepared for the Ranchaero Airport. However, the 2017 Butte County ALUCP provides a Compatibility Policy Map of the Ranchaero Airport and its environs.

Additional Air Traffic Facilities

There are multiple air traffic facilities throughout Butte County. Lake Oroville Seaplane Landing Site provides seaplane landing access for pilots that adhere to federal and other associated guidelines. A State permit was revoked from this location in 2012.

There is one heliport in Oroville at the Butte County Sherriff's Office jail complex, one at Enloe Hospital in Chico, and one at Oroville Hospital in Oroville.

Upper Ridge Community Plan

The following information is provided in the URCP to describe the Plan Area's existing transportation system and facilities.

Vehicular Circulation

All neighborhoods in the Plan Area are accessed by Skyway, an arterial highway that winds along the ridge in a mostly north-south direction. From this street is a set of collector roads leading into various neighborhoods. In the historic neighborhood of Old Magalia, Skyway acts as a collector road as most through traffic travels on New Skyway, a bypass constructed to the east.

Skyway to the southwest towards Chico is the overwhelmingly predominant route to and from the Upper Ridge area. The Upper Ridge can be accessed from the north via Forest Highway 171, also known as Upper Skyway, connecting to Stirling City and Butte Meadows near SR 32, a distance of about 23 miles from the Plan Area. There is also a route from Lake DeSabla at the north end of the Plan Area traveling northwest to SR 32 along approximately six miles of winding mountain roads. Centerville Road is another access for residents on the west side of the Plan Area. It is about 18 miles to Chico, but this road is steep, winding, and difficult to use, with no guardrails in various places and difficult conditions, such as washouts and numerous potholes.

Bicycle and Pedestrian Facilities

There are no formal existing bicycle facilities in the plan area. The already-planned improvements and additional recommendations to make walking and bicycling in the Upper Ridge safer, more comfortable, and more convenient are described in Impact TRANS-1 in Section 5.15.4. Pedestrians generally walk on roads where there is slower moving traffic, on the roadway shoulder along Skyway, or use the existing off-street trail network.

Evacuation

Evacuation routes are designated roadways that allow for many people to quickly leave an area due to a potential or imminent disaster. The main evacuation route on the Upper Ridge is Skyway, a County-designated emergency travel route, which runs through the study area continuing southwest through

Paradise to eventually connect with SR 99 south of Chico. To the north, Skyway continues through Stirling City and then northwest to Butte Meadows and SR 32.

In a small-scale emergency, community members may be safe by evacuating to another neighborhood within the study area or to nearby adjacent areas. Parks, open space, businesses, churches, and schools can provide safe refuge areas to gather in an emergency. There are two existing designated emergency "assembly points" in the Upper Ridge: Pine Ridge School and Magalia Community Church.

5.16.2 STANDARDS OF SIGNIFICANCE

The proposed project would result in a significant transportation impact if it would:

1. Conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities.
2. Conflict with or be inconsistent with CEQA Guidelines Section 15064.3(b).
3. Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment).
4. Result in inadequate emergency access.
5. In combination with past, present, and reasonably foreseeable projects, result in a cumulative transportation impact.

BCAG VMT Threshold

The BCAG SB 743 Implementation Guide outlines three VMT significance threshold options for lead agencies in Butte County followed by specific recommendations based on current evidence:

Option 1: Apply the CEQA Guidelines thresholds contained in Section 15064.3.

The CEQA Guidelines Section 15064.3 can be interpreted as establishing a threshold where 'any' increase in VMT above baseline conditions would constitute a significant VMT impact. This threshold is recommended in the OPR Technical Advisory for retail land use projects. Caltrans also supports this threshold for roadway capacity projects stating, "Within MPO areas…, a project that results in an increase in VMT when comparing the future build alternative to the future no-build alternative (i.e., the VMT is higher under the future build scenario) will generally be considered significant…"

This threshold has the strongest compliance with the CEQA Guidelines but would likely result in most projects having a significant VMT impact. While this would maximize the potential for mitigation to reduce VMT in Butte County, it would come at the cost of performing more environmental impact reports (EIRs) instead of negative declarations that have been common in the past, especially for small projects. This threshold would also ignore that VMT is connected to quality of life, which CEQA was intended to protect.

The need for EIRs could be reduced for jurisdictions willing to perform general plan updates that address VMT impacts in the general plan EIR with the explicit objective of taking advantage of CEQA Guidelines Section 15183. This section of the CEQA Guidelines relieves a project of additional environmental review if

the environmental impact was adequately addressed in the general plan EIR (this means that project-level mitigation to lessen the VMT impact must be included) and the project is consistent with the general plan.

For Butte County jurisdictions, addressing transportation VMT impacts in the City or County General Plan EIR would streamline subsequent project CEQA reviews and could improve the ability of the jurisdiction to reduce VMT through mitigation programs (i.e., VMT impact fee program, exchange, or bank).

Option 2: Apply the OPR Technical Advisory thresholds for jurisdictions within a metropolitan planning organization (MPO) boundary.

Option 2 complies with state expectations as expressed through CEQA guidance prepared by OPR and ARB. Option 2 has generally been accepted by other local jurisdictions throughout the state. Option 2 also has the endorsement of Caltrans as noted in the Vehicle Miles Traveled-Focused Transportation Impact Study Guide, Caltrans, May 2020.

The OPR Technical Advisory contains VMT threshold recommendations that vary by type of project and type of land use, as follows.

- Residential projects – A proposed project exceeding a level of 15 percent below existing (baseline) VMT per capita may indicate a significant transportation impact. Existing VMT per capita may be measured as regional VMT per capita or as city VMT per capita.
- Office projects – A proposed project exceeding a level of 15 percent below existing (baseline) regional VMT per employee may indicate a significant transportation impact.
- Retail projects greater than 50,000 square feet – A net increase in total VMT may indicate a significant transportation impact.
- Mixed-use projects – Lead agencies can evaluate each component of a mixed-use project independently and apply the significance threshold for each project type included (e.g., residential and retail). Alternatively, a lead agency may consider only the project's dominant use. In the analysis of each use, a project should take credit for internal capture.
- Other project types – The OPR Technical Advisory recommends that lead agencies consider the CEQA statute and CEQA Guidelines sections cited above in the development of thresholds for other project types. In addition, the Technical Advisory advises avoiding projects or actions that would increase total VMT or encourage development in less travel-efficient locations. This information may indicate that any increase in total VMT could constitute a significant impact.
- Redevelopment projects – Where a project replaces existing VMT-generating land uses, if the replacement leads to a net overall decrease in VMT, the project would lead to a less-than-significant transportation impact. If the project leads to a net overall increase in VMT, then the thresholds described above should apply.
- Transportation projects – Lead agencies should develop a project-level threshold based on the VMT levels required to achieve the GHG reduction goals of the CARB 2017 Scoping Plan and Mobile Source Strategy. Based on analysis documented in 2017 Scoping Plan-Identified VMT Reductions and Relationship to State Climate Goals, California Air Resources Board, January 2019, California has a VMT growth capacity of 6.5 percent by 2050 above a 2015-2018 baseline average. For Butte County, this equates to about 326,350 weekday VMT in 2050.

Option 3: Apply a qualitative threshold based on interference with state VMT/GHG reduction goals.

Lead agencies have discretion to set their own thresholds as outlined in CEQA Guidelines Section 15064. This threshold recognizes that VMT reduction is tied to state GHG reduction goals and allows a lead agency to assess VMT impacts of local projects based on whether they would interfere or prevent the state from taking actions necessary to reduce VMT consistent with state goals. The state has the authority to implement a wide variety of actions that could effectively reduce VMT such as higher gas taxes, a new VMT tax, new tolls, etc. Local projects that do not interfere with this authority could reflect that outcome as part of their VMT impact analysis using this threshold. The project's environmental review document should still disclose relevant information about how the project's VMT performance compares to applicable threshold recommendations from state agencies such as OPR and ARB, but this information would not be used as the basis for a significance conclusion.

This option states: The proposed project will cause a significant VMT impact if its implementation substantially interferes with achievement of VMT reduction goals of the state consistent with CARB's 2017 Scoping Plan.

Threshold Recommendations

Since an impact under CEQA is a change to the existing environment, a starting level for potential thresholds is the baseline. This thinking would support Option 1 and would likely have the strongest evidence basis for making significance determinations. However, many lead agencies and project applicants are not prepared for the changes in CEQA documentation that would likely occur under this option where most projects would have a significant VMT impact. The option also ignores the positive role that VMT plays in the economy and quality of life. Considering the remaining two options, the differences are certainly stark and neither has been tested in the courts. Option 2 complies with state expectations as expressed through CEQA guidance prepared by OPR and ARB while Option 3 opts for more local control of the threshold. Under Option 3, local land use projects would likely be found to have less than significant VMT impacts because they would not interfere with the state's ability to achieve desired VMT reductions through state actions. This is factual and supported by evidence but involves uncertainty without court validation. Given the litigious nature of CEQA, Option 3 involves more risk associated with CEQA compliance, so Option 2 has generally been accepted by other local jurisdictions throughout the state. Option 2 also has the endorsement of Caltrans as noted in the Vehicle Miles Traveled-Focused Transportation Impact Study Guide, Caltrans, May 2020.

Whatever option a lead agency chooses should be supported by substantial evidence. This includes strengthening the evidence supporting any of the three option and being prepared to explain their rationale and evidence in their environmental documents and when responding to public and agency comments during environmental document reviews. In addition, Butte County Board of Supervisors, adopted the Interim Transportation Threshold of Significance under the CEQA for VMT (Resolution No. 22-065); therefore agencies should confide in the updated County's Environmental Review Guidelines for determining VMT thresholds.

5.16.3 PROPOSED GENERAL PLAN POLICIES

The following are relevant policies of the Butte County General Plan Update, which may reduce impacts to transportation as a result of implementation of the proposed project.

Circulation Element

- CIR-P1.1: Circulation capital improvement plans shall be jointly coordinated with the respective municipalities and the Butte County Association of Governments.
- CIR-P1.2: The improvements of major travel corridors to Interstate 5 for the movement of goods and services to and from the interstate shall be coordinated with State, County, and local agencies.
- CIR-P1.3: Transportation planning within the municipalities' spheres of influence shall consider the municipalities' land use and circulation plans, as appropriate.
- CIR-P2.1: Carpooling shall be encouraged at major job and activity centers by providing information on how to participate in available private and public programs.
- CIR-P2.2: Trip reduction among County employees shall be encouraged. Specific measures to encourage trip reduction could include providing subsidies, bicycle facilities, alternative work schedules, ridesharing, telecommuting and work-at-home programs, employee education, and preferential parking for carpools/vanpools.
- CIR-P2.3: Home occupations shall be encouraged through streamlined application processes that are appropriate to the intensity and proposed uses of the home business.
- CIR-P2.4: Employers shall be encouraged to provide transit subsidies, bicycle facilities, alternative work schedules, ridesharing, telecommuting and work-at-home programs, employee education and preferential parking for carpools/vanpools.
- CIR-P2.5: Transportation corridors for renewable energy transmission and for new transit lines shall be preserved.
- CIR-P2.6: The County shall incorporate "Complete Streets" policies that are designed and built to accommodate pedestrians, bicyclists, and transit users.
- CIR-A2.1: Prepare, adopt, and maintain a VMT environmental threshold and development project screening process.
- CIR-P3.1: The County supports improved connections to other regional transportation services, such as rail and regional/national bus lines, to connect Butte County communities with each other.
- CIR-P3.2: A continuous, integrated, and accessible pedestrian network shall be provided in urbanized areas to encourage walking as a viable transportation mode and as a form of recreation and exercise.
- CIR-P3.3: Travel modes shall be interconnected to form an integrated, coordinated, and balanced multimodal transportation system.

- CIR-P3.4: New development projects shall provide adequate pedestrian, bicycle, and multiuse facilities in a way that integrates circulation and recreational use, commensurate with the impacts of the project, local and regional plans, and consistent with surrounding development.
- CIR-P3.5: New neighborhoods shall provide bike and pedestrian connectivity between streets.
- CIR-P3.6: Arterial and collector streets shall be designed to enhance the integrity and cohesiveness of urban neighborhoods.
- CIR-P3.7: Major residential development projects shall be designed with interconnected collector street patterns and short block lengths. Cul-de-sac and dead-end streets shall conform to County design standards.
- CIR-P3.8: Public facilities shall be located and designed to allow for convenient access from public transit and/or bicycle and pedestrian facilities.
- CIR-P4.1: The County supports public transit as a viable and attractive alternative to the use of single occupant motor vehicles.
- CIR-P4.2: The County supports improved public transit service to be determined through the public process to identify unmet needs and prioritize feasible solutions. Potential improvements could include serving an expanded geographic area, more frequent buses at key times of the day, and improved transit amenities such as bus shelters.
- CIR-P4.3: The County supports public transportation programs that promote access to shopping, employment, education, health care, and recreation.
- CIR-P4.4: The County encourages the Butte County Association of Governments to provide shuttles from local transit stations to special event centers.
- CIR-P4.5: The County continues to support local Amtrak passenger services.
- CIR-P4.6: New development projects in areas served by existing or planned transit shall provide fixed transit facilities such as bus shelters and pullouts, according to expected demand and in coordination with Butte Regional Transit.
- CIR-P5.1: Bicycle facilities shall be developed in accordance with the County's adopted Bicycle Master Plan.
- CIR-P5.2: New bicycle routes and paths shall create a bicycle environment that minimizes harm when people ride.
- CIR-P5.3: The bicycle system shall be integrated with other transportation modes by connecting bicycle routes and transit stops, providing secure bicycle parking facilities and supporting efforts to expand accommodation of bicycles aboard buses.
- CIR-P5.4: Transportation service providers shall be encouraged to incorporate bicycle storage facilities into bus stops and rail stations.
- CIR-P5.5: Construction or expansion of major arterials shall incorporate Class II bicycle facilities whenever feasible. Class III Bike routes will be considered where appropriate.

- CIR-P5.6: Residential development projects shall incorporate internal circulation networks that encourage bicycle use and that connect to the external bicycle circulation system.
- CIR-P5.7: Owners of apartment complexes and major commercial, office, industrial, and educational sites shall provide plentiful, convenient, and centrally located bicycle parking facilities.
- CIR-P5.8: All County facilities and park-and-ride lots shall provide appropriate bicycle amenities, including bicycle racks and storage facilities.
- CIR-P6.1: "The County shall strive to maintain a level of service (LOS) D or better during the peak hours for County-maintained roads within the unincorporated areas of the county but outside municipalities' spheres of influence (SOI). Within a municipality's SOI, the County shall strive to meet the municipality's LOS goal. However, the County considers LOS E or F to be acceptable on the following roadways:
    - State Route 32 — East Avenue to W. Sacramento Avenue
    - State Route 32 — W. Sacramento Avenue to W. 1st Street
    - State Route 32 — W. 1st Street to W. 5th Street
    - State Route 70 — Grand Avenue to State Route 149
    - State Route 99 – State Route 149 to Durham- Pentz Road
    - State Route 99 — Durham- Pentz Road to Skyway
    - State Route 99 — East 20th to State Route 32
    - State Route 162 — Larkin Road to State Route 70
    - Skyway — State Route 99 to Notre Dame Boulevard
- CIR-P6.2: Parcels adjacent to highways and significant roadways shall have only limited access to these facilities to maintain traffic flow and minimize potential collisions. Development shall consider access from the lowest road classification where available and feasible.
- CIR-P6.3: Street improvements within the sphere of influence of an incorporated municipality shall conform to the street standards of that municipality.
- CIR-P6.4: Major new development projects and subdivisions, as determined by the Department of Development Services, as well as other projects that meet the thresholds under the County's Traffic Impact Study Guidelines, shall prepare and implement traffic studies to assess and mitigate adverse impacts to local and regional transportation facilities.
- CIR-P7.1: Rights-of-way needed for planned roads or expansion of existing roads, including facilities in the State highway system, shall be reserved, and land uses that would preclude development of such rights-of-way shall be prohibited.
- CIR-P7.2: Existing road capacity available within the County road system shall be used to serve future development unless construction of a new road will enhance circulation opportunities.
- CIR-P7.3: New roads shall be located to encourage development near existing highway corridors and existing rural community centers.

- CIR-P8.1: "Roadway improvement or maintenance projects shall be prioritized as follows:

  a. Priority One: Urgent Projects. Projects of an urgent nature that are clearly needed to protect the health and safety of the traveling public, such as imminent bridge or road bed failure. Sample project: reconstruction of a storm-damaged road bed where such damage has severely restricted traffic and access.

  b. Priority Two: Safety Projects. Projects that are intended to reduce the number and severity of accidents along a particular road segment. Sample projects: a change in road alignment where an alternative is needed to reduce high accident rates, traffic signals, stop signs, crosswalks, and other traffic-engineering decisions.

  c. Priority Three: Reconstruction/Maintenance Projects. Projects that involve ongoing maintenance, rehabilitation, and reconstruction requirements to preserve the existing bridge and road network. Sample project: routine maintenance to prevent structural damage (as opposed to improvements in surface rideability).

  d. Priority Four: Capacity Improvements. Projects that involve operational improvements to the existing road network that increase service efficiency and capacity. Sample projects: widening of an arterial road to increase capacity and Transportation System Management projects.

  e. Priority Five: New Construction Projects. Projects that involve construction of a new bridge or road. New County construction projects shall receive higher priority when they accommodate development in locations within reasonable proximity to centers of employment and shopping facilities and that encourage the conservation of energy in the transportation sector. Sample project: construction of an urban area collector street.

- CIR-P8.2: If there is no regional or local traffic impact fee that applies, approval of new development projects may be conditioned to require payment of the project's proportionate share of the cost of transportation improvements necessary to serve the project.

- CIR-P8.3: Urban and rural arterials and collectors shall be considered major thoroughfares for the purpose of collecting appropriate fees allowed under Section 66484 of the Subdivision Map Act.

- CIR-P8.4: As funding is available, prioritize improvements and resolve maintenance, access, erosion, and dust issues on rural gravel roads that provide access for residential areas.

- CIR-P9.1: All new road systems, both public and private, shall provide for efficient evacuation of residents and adequate access to fire and other emergency services by providing at least two means of emergency access to an interconnected collector system. New road systems will include reduction and maintenance of roadside vegetation.

- CIR-P9.2: New development projects shall include safe routes to school where appropriate.

- CIR-A9.1: Work with federal and State funding sources to create a funding plan to implement improvements for emergency access, evacuation, fire protection, public safety, water quality protection, and circulation and work with appropriate agencies to identify and prioritize projects.

- CIR-P10.1: The County encourages the Butte County Association of Governments to provide transit services that meet the needs of youth and seniors, by improving connections to schools, parks, libraries, social services, medical offices, and shopping.

- CIR-P10.2: All new development projects shall meet the requirements of the Americans with Disabilities Act.
- CIR-P10.3: Pedestrian facilities shall be designed and constructed to be accessible to all users appropriate for these facilities.
- CIR-P11.1: Private airstrips and landing fields shall be located outside of flight paths to and from existing airports so that they do not present a hazard or annoyance to neighboring areas.

Health and Safety Element

- HS-A3.2: Coordinate with Caltrans, the United States Forest Service (USFS), regional park districts, and other applicable agencies to support efforts that improve drainage, increase roadbed height, and conduct other protective steps to increase the resiliency of single-access roads and trails in flood zones.
- HS-P16.5: Emergency access routes shall be kept free of traffic impediments.
- HS-P18.6: The County shall prioritize roadway improvements on evacuation routes to improve emergency evacuation and access functions, where feasible, including paving, regrading, adding passing zones and pull-outs, and clearing vegetation.
- HS-P19.1: The County supports physical infrastructure that encourages active transportation, such as bike paths, walking paths, and trails to promote public health.
- HS-P19.2: The County shall promote opportunities for physical activities, such as walking and biking, and encourage patterns of new development that promote physical activity and encourage bicycling, walking, and transit.
- HS-P19.5: The County shall work with the incorporated municipalities and private landowners to improve access to markets, gardens, parks, and transportation.

Environmental Justice Element

- EJ-P2.1: The County shall prioritize improvements to bikeways and sidewalks that are in Communities of Opportunity to make active transportation more accessible, user friendly, and safer in these communities.
- EJ-P2.3: The County shall encourage development in Communities of Opportunity that combines employment, housing, and services close to transit facilities.
- EJ-P2.4: The County shall work with transit providers to expand the hours of transit operation, operational boundaries, convenience, and quality of transit services that connect Communities of Opportunity with educational and economic opportunities, medical services, and other needed goods and services.
- EJ-P2.5: The County shall encourage transit providers to offer small or less frequent buses on routes with low passenger demand and connections between unincorporated and incorporated bus routes, with a focus on bridging service gaps in Communities of Opportunity.

- **EJ-P7.3:** The County supports the development of small-scale service/shopping centers providing a range of retail, public amenities, services, and related infrastructure that are transit accessible to Communities of Opportunity and that meet the requirements to obtain low-income housing tax credit funding.

Land Use Element

- **LU-P8.1:** Industry shall be near major transportation facilities.
- **LU-P8.2:** The County shall direct projected growth to areas where the appropriate level of transportation infrastructure is or will be available during the planning period.
- **LU-P12.5:** The County shall consider the most current Airport Land Use Compatibility Plan in General Plan and Zoning decisions and shall be consistent with it.

Agriculture Element

- **AG-P6.4:** The County supports the provision of transportation infrastructure to transport agricultural goods to markets and ports.

Area Plans Element

- **D2N-O1.1:** "Maintain highways and roads, with appropriate street patterns and designs.
  a. Establish and design the street system to reflect more effectively the classification concept (arterial, collector, local) and the desired land use objectives of the community.
  b. The circulation system should support the collective mobility goals of the residents of the Planning Area as identified in the Butte County Regional Transportation Plan."
- **D2N-P1.7:** Require traffic studies on any residential development which will have significant impacts on transportation to evaluate the placement of traffic control devices.
- **D2N-P1.10:** Develop a community-wide bicycle and pedestrian plan in accordance with the Transportation Development Act.
- **D2N-O1.4:** Provide public transportation to that segment of the population within the community which is transit dependent, and continue to support public transit for area residents.
- **D2N-P1.20:** Require new subdivisions to incorporate transit design characteristics in street designs.
- **D2N-P1.21:** Require large subdivisions to provide a transportation system management plan which incorporates public transit as an element.
- **D2N-P1.22:** Develop low-cost methods of providing transportation to as many transit-dependent persons as possible.
- **D2N-P1.23:** Develop programs to help increase the farebox return of the transit system.

Public Facilities and Services Element

- **PUB-P1.1:** Residents shall be educated about the realities of rural living and expectations regarding the availability of services and service response times in rural areas.

5.16.4 IMPACT DISCUSSION

TRANS-1	The proposed project would not conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities.

General Plan 2040

Relevant transportation plans and policies include the BCAG RTP/SCS, BCAG's Transit and Non-Motorized Transportation Plan, and the County Bicycle Plan.

RTP/SCS

The RTP/SCS specifies the policies, projects, and programs necessary over a 20 or more-year period to maintain, manage, and improve the region's transportation system. BCAG published the 2020 RTP/SCS in 2020 (adopted December 10, 2020). As shown in Table 5.16-5, *General Plan 2040 and Upper Ridge Community Plan Consistency with BCAG's 2020-2040 RTP/SCS*, General Plan 2040 implements most of the RTP/SCS goals listed in the Policy Element of the RTP/SCS and would not conflict with any of these goals. Similarly, the URCP and its proposed land use changes would not conflict with the goals of the RTP/SCS.

TABLE 5.16-5 GENERAL PLAN 2040/UPPER RIDGE COMMUNITY PLAN CONSISTENCY WITH BCAG'S 2020-2040 RTP/SCS

RTP/SCS Goal	Project Consistency Analysis
RTP/SCS Goal 1: A safe and efficient regional road system that accommodates the demand for movement of people and goods.	Consistent. General Plan 2040 includes the following goals and policies in the Circulation Element that would help implement this goal: Goal CIR-1: Promote intergovernmental communication and cooperation concerning transportation-related issues. ▪ CIR-P1.1: Circulation capital improvement plans shall be jointly coordinated with the respective municipalities and the Butte County Association of Governments. ▪ CIR-P1.2: The improvements of major travel corridors to Interstate 5 for the movement of goods and services to and from the interstate shall be coordinated with State, County, and local agencies. ▪ CIR-P1.3: Transportation planning within the municipalities' spheres of influence shall consider the municipalities' land use and circulation plans, as appropriate. Goal CIR-6: Support a balanced and integrated road and highway network that maximizes the efficient mobility of people and goods in a manner that limits harm to people when traveling. ▪ CIR-P6.1: The County shall strive to maintain a level of service (LOS) D or better during the peak hours for County-maintained roads within the unincorporated areas of the county but outside municipalities' spheres of influence (SOI). Within a municipality's SOI, the County shall strive to meet the municipality's LOS goal. However, the County considers LOS E or F to be acceptable on the following roadways: o State Route 32-— East Avenue to W. Sacramento Avenue o State Route 32-— W. Sacramento Avenue to W. 1st Street o State Route 32-— W. 1st Street to W. 5th Street o State Route 70 —- Grand Avenue to State Route 149 o State Route 99 – State Route 149 to Durham- Pentz Road o State Route 99-— Durham- Pentz Road to Skyway o State Route 99-— East 20th to State Route 32 o State Route 162 — Larkin Road to State Route 70 o Skyway — State Route 99 to Notre Dame Boulevard ▪ CIR-P6.2: Parcels adjacent to highways and significant roadways shall have only limited access to these facilities to maintain traffic flow and minimize potential collisions. Development shall consider access from the lowest road classification where available and feasible. ▪ CIR-P6.3: Street improvements within the sphere of influence of an incorporated municipality shall conform to the street standards of that municipality. ▪ CIR-P6.4: Major new development projects and subdivisions, as determined by the Department of Development Services, as well as other projects that meet the thresholds under the County's Traffic Impact Study Guidelines, shall prepare and implement traffic studies to assess and mitigate adverse impacts to local and regional transportation facilities.

RTP/SCS Goal	Project Consistency Analysis
	Goal CIR-8: Provide an adequate road system that is within the County's ability to finance and maintain. ▪ CIR-P8.1: "Roadway improvement or maintenance projects shall be prioritized as follows: a) *Priority One:* Urgent Projects. Projects of an urgent nature that are clearly needed to protect the health and safety of the traveling public, such as imminent bridge or road bed failure. Sample project: reconstruction of a storm-damaged road bed where such damage has severely restricted traffic and access. b) *Priority Two:* Safety Projects. Projects that are intended to reduce the number and severity of accidents along a particular road segment. Sample projects: a change in road alignment where an alternative is needed to reduce high accident rates, traffic signals, stop signs, crosswalks, and other traffic-engineering decisions. c) *Priority Three:* Reconstruction/Maintenance Projects. Projects that involve ongoing maintenance, rehabilitation, and reconstruction requirements to preserve the existing bridge and road network. Sample project: routine maintenance to prevent structural damage (as opposed to improvements in surface rideability). d) *Priority Four:* Capacity Improvements. Projects that involve operational improvements to the existing road network that increase service efficiency and capacity. Sample projects: widening of an arterial road to increase capacity and Transportation System Management projects. e) *Priority Five:* New Construction Projects. Projects that involve construction of a new bridge or road. New County construction projects shall receive higher priority when they accommodate development in locations within reasonable proximity to centers of employment and shopping facilities and that encourage the conservation of energy in the transportation sector. Sample project: construction of an urban area collector street. ▪ CIR-P8.2: If there is no regional or local traffic impact fee that applies, approval of new development projects may be conditioned to require payment of the project's proportionate share of the cost of transportation improvements necessary to serve the project. ▪ CIR-P8.3: Urban and rural arterials and collectors shall be considered major thoroughfares for the purpose of collecting appropriate fees allowed under Section 66484 of the Subdivision Map Act. ▪ CIR-P8.4: As funding is available, prioritize improvements and resolve maintenance, access, erosion, and dust issues on rural gravel roads that provide access for residential areas. Consistent. The Upper Ridge Community Plan aims to increase safe and convenient access for all users in the Upper Ridge Area. As discussed in Impact TRANS-2, the land use changes proposed in the Upper Ridge community are not expected to add additional trips in the Plan Area, thereby decreasing the efficiency of regional roadway systems. The roadway improvements proposed for the Plan Area are furthermore expected to increase the safety and efficiency of these roadway systems.

RTP/SCS Goal	Project Consistency Analysis
RTP/SCS Goal 2: Provide an efficient, effective, coordinated regional transit system that increases mobility for urban and rural populations, including those located in disadvantaged areas of the region.	Consistent. General Plan 2040 includes the following goals and policies in the Circulation Element that would help implement this goal: ▪ CIR-P2.4: Employers shall be encouraged to provide transit subsidies, bicycle facilities, alternative work schedules, ridesharing, telecommuting and work-at-home programs, employee education and preferential parking for carpools/vanpools. ▪ CIR-P3.1: The County supports improved connections to other regional transportation services, such as rail and regional/national bus lines, to connect Butte County communities with each other. Goal CIR-4: Promote a balanced and integrated public transit system to maximize efficient mobility that minimizes harm to people when traveling. ▪ CIR-P4.1: The County supports public transit as a viable and attractive alternative to the use of single occupant motor vehicles. ▪ CIR-P4.2: The County supports improved public transit service to be determined through the public process to identify unmet needs and prioritize feasible solutions. Potential improvements could include serving an expanded geographic area, more frequent buses at key times of the day, and improved transit amenities such as bus shelters. ▪ CIR-P4.3: The County supports public transportation programs that promote access to shopping, employment, education, health care, and recreation. ▪ CIR-P4.4: The County encourages the Butte County Association of Governments to provide shuttles from local transit stations to special event centers. ▪ CIR-P4.5: The County continues to support local Amtrak passenger services. ▪ CIR-P4.6: New development projects in areas served by existing or planned transit shall provide fixed transit facilities such as bus shelters and pullouts, according to expected demand and in coordination with Butte Regional Transit. ▪ CIR-P10.1: The County encourages the Butte County Association of Governments to provide transit services that meet the needs of youth and seniors, by improving connections to schools, parks, libraries, social services, medical offices, and shopping. Consistent. According to the Upper Ridge Community Plan, there are two existing bus transit stops in Magalia Center. Under Strategy CIR-2.5, the Plan proposes the addition of enhanced bus stop signage, lighting, and seating and bus shelters for both stops. While the Plan does not address the potential for additional transit needs, Butte Regional Transit will update its service to meet the needs of future residents accordingly. Furthermore, Plan does not propose any action that would conflict with this goal.
RTP/SCS Goal 3: A rail system that provides safe and reliable service for people and goods.	Consistent. General Plan 2040 includes the following policy and action in the Circulation Element that would help implement this goal: ▪ CIR-P3.1: The County supports improved connections to other regional transportation services, such as rail and regional/national bus lines, to connect Butte County communities with each other. ▪ CIR-A3.1: In conjunction with the Butte County Association of Governments, seek funding to develop a plan to support and promote rail service that will connect Butte County with other regions and connect Butte County communities with each other. Consistent. The Upper Ridge Community Plan does not include any proposals relevant to the County's rail system. It would not conflict with the implementation of this RTP/SCS goal.

RTP/SCS Goal 4: Provide a transportation system that enables safe movement of goods in and through Butte County.	Consistent. General Plan 2040 includes the following goals, policies, and action in the Circulation Element that would help implement this goal: Goal CIR-6: Support a balanced and integrated road and highway network that maximizes the efficient mobility of people and goods in a manner that limits harm to people when traveling. ▪ CIR-P6.1: The County shall strive to maintain a level of service (LOS) D or better during the peak hours for County-maintained roads within the unincorporated areas of the county but outside municipalities' spheres of influence (SOI). Within a municipality's SOI, the County shall strive to meet the municipality's LOS goal. However, the County considers LOS E or F to be acceptable on the following roadways: o State Route 32-— East Avenue to W. Sacramento Avenue o State Route 32-— W. Sacramento Avenue to W. 1st Street o State Route 32-— W. 1st Street to W. 5th Street o State Route 70 —- Grand Avenue to State Route 149 o State Route 99 – State Route 149 to Durham- Pentz Road o State Route 99-— Durham- Pentz Road to Skyway o State Route 99-— East 20th to State Route 32 o State Route 162 — Larkin Road to State Route 70 o Skyway — State Route 99 to Notre Dame Boulevard ▪ CIR-P6.2: Parcels adjacent to highways and significant roadways shall have only limited access to these facilities to maintain traffic flow and minimize potential collisions. Development shall consider access from the lowest road classification where available and feasible. ▪ CIR-P6.3: Street improvements within the sphere of influence of an incorporated municipality shall conform to the street standards of that municipality. ▪ CIR-P6.4: Major new development projects and subdivisions, as determined by the Department of Development Services, as well as other projects that meet the thresholds under the County's Traffic Impact Study Guidelines, shall prepare and implement traffic studies to assess and mitigate adverse impacts to local and regional transportation facilities. Goal CIR-7: Develop a transportation system that is consistent with and will support existing and proposed patterns and densities of land use and that encourages efficient land utilization. ▪ CIR-P7.1: Rights-of-way needed for planned roads or expansion of existing roads, including facilities in the State highway system, shall be reserved, and land uses that would preclude development of such rights-of-way shall be prohibited. ▪ CIR-P7.2: Existing road capacity available within the County road system shall be used to serve future development unless construction of a new road will enhance circulation opportunities. ▪ CIR-P7.3: New roads shall be located to encourage development near existing highway corridors and existing rural community centers. ▪ CIR-A8.4: Encourage the Butte County Association of Governments to work with all local agencies to create a funding plan and regional traffic impact fee for necessary improvements to the State highway system. Consistent. As discussed in the analysis of RTP/SCS Goal 1, the Upper Ridge Community proposes a number of roadway improvements that aim to increase the safety of primary roads in the project area, including Skyway. The Upper Ridge Community does not conflict with RTP/SCS Goal 4.

RTP/SCS Goal	Project Consistency Analysis
RTP/SCS Goal 5: A fully functional and integrated air service and airport system complementary to the countywide transportation system.	Consistent. General Plan 2040 includes the following goal and policies in the Circulation Element and Land Use Element that would help implement this goal: Goal CIR-11: Promote effective and efficient use of existing and future air facilities. ▪ CIR-P11.1: Private airstrips and landing fields shall be located outside of flight paths to and from existing airports so that they do not present a hazard or annoyance to neighboring areas. ▪ LU-P12.5: The County shall consider the most current Airport Land Use Compatibility Plan in General Plan and Zoning decisions and shall be consistent with it. Consistent. The Upper Ridge Community Plan does not address the County's airport system nor does the Plan Area include an airport. The Upper Ridge Community does not conflict with this goal.
RTP/SCS Goal 6: A regional transportation system for bicyclists and pedestrians.	Consistent. General Plan 2040 includes the following goal and policies in the Circulation Element, Health and Safety Element, Environmental Justice Element, and Area Plans Element that would help implement this goal: ▪ CIR-P2.6: The County shall incorporate "Complete Streets" policies that are designed and built to accommodate pedestrians, bicyclists, and transit users. ▪ CIR-P3.2: A continuous, integrated, and accessible pedestrian network shall be provided in urbanized areas to encourage walking as a viable transportation mode and as a form of recreation and exercise. ▪ CIR-P3.3: Travel modes shall be interconnected to form an integrated, coordinated, and balanced multimodal transportation system. ▪ CIR-P3.4: New development projects shall provide adequate pedestrian, bicycle, and multiuse facilities in a way that integrates circulation and recreational use, commensurate with the impacts of the project, local and regional plans, and consistent with surrounding development. ▪ CIR-P3.5: New neighborhoods shall provide bike and pedestrian connectivity between streets. ▪ CIR-P5.1: Bicycle facilities shall be developed in accordance with the County's adopted Bicycle Master Plan. ▪ CIR-P5.2: New bicycle routes and paths shall create a bicycle environment that minimizes harm when people ride. ▪ CIR-P5.6: Residential development projects shall incorporate internal circulation networks that encourage bicycle use and that connect to the external bicycle circulation system. ▪ HS-P19.1: The County supports physical infrastructure that encourages active transportation, such as bike paths, walking paths, and trails to promote public health. ▪ HS-P19.2: The County shall promote opportunities for physical activities, such as walking and biking, and encourage patterns of new development that promote physical activity and encourage bicycling, walking, and transit. ▪ EJ-P2.1: The County shall prioritize improvements to bikeways and sidewalks that are in Communities of Opportunity to make active transportation more accessible, user friendly, and safer in these communities. ▪ D2N-P1.10: Develop a community-wide bicycle and pedestrian plan in accordance with the Transportation Development Act. Consistent. The Upper Ridge Community Plan proposes several bicycle and pedestrian roadway improvements, including multi-use trails, several connected Class II and Class III bike lanes and a bike lane along Skyway. The Plan does not conflict with the RTP/SCS goal.

RTP/SCS Goal	Project Consistency Analysis
RTP/SCS Goal 7: Promote the use of ITS technologies in the planning and programming process	Consistent. While General Plan 2040 does not include any goals, policies, or actions relevant to ITS technologies, as noted in the discussion of the previous RTP/SCS goals, the proposed plan does not propose any land use changes other than those in the Upper Ridge Community Plan Area. General Plan 2040 does not explicitly implement RTP/SCS Goal 7 but it does not conflict with its implementation either.
RTP/SCS Goal 8: Reduce usage of nonrenewable energy resources for transportation purposes.	Consistent. General Plan 2040 includes the following policies in the Circulation Element that would help implement this goal (see General Plan 2040 goals and policies included in the discussion of RTP/SCS Goal 6): ▪ CIR-P2.1: Carpooling shall be encouraged at major job and activity centers by providing information on how to participate in available private and public programs. ▪ CIR-P2.2: Trip reduction among County employees shall be encouraged. Specific measures to encourage trip reduction could include providing subsidies, bicycle facilities, alternative work schedules, ridesharing, telecommuting and work-at-home programs, employee education, and preferential parking for carpools/vanpools. ▪ CIR-P2.4: Employers shall be encouraged to provide transit subsidies, bicycle facilities, alternative work schedules, ridesharing, telecommuting and work-at-home programs, employee education and preferential parking for carpools/vanpools. ▪ CIR-P2.5: Transportation corridors for renewable energy transmission and for new transit lines shall be preserved. Consistent. Under Strategy HS-1.5, the Upper Ridge Community Plan encourages the County to work with partner agencies and other organizations to secure grant funding to provide low-cost energy retrofits reducing energy use. This strategy supports RTP/SCS Goal 8 and no other components under the Plan would conflict with this goal.
RTP/SCS Goal 9: Achieve air quality standards set by the Environmental Protection Agency (EPA) and the State Air Resources Board.	Consistent. General Plan 2040 includes the following goal, policies, and action in the Circulation Element that would help implement this goal: Goal CIR-2: Strive to operate and modify the transportation network to accommodate planned land use growth in a manner that reduces per-capita vehicle miles traveled (VMT) and related greenhouse gas and air pollutant emissions. ▪ CIR-P2.1: Carpooling shall be encouraged at major job and activity centers by providing information on how to participate in available private and public programs. ▪ CIR-P2.2: Trip reduction among County employees shall be encouraged. Specific measures to encourage trip reduction could include providing subsidies, bicycle facilities, alternative work schedules, ridesharing, telecommuting and work-at-home programs, employee education, and preferential parking for carpools/vanpools. ▪ CIR-P2.3: Home occupations shall be encouraged through streamlined application processes that are appropriate to the intensity and proposed uses of the home business. ▪ CIR-P2.4: Employers shall be encouraged to provide transit subsidies, bicycle facilities, alternative work schedules, ridesharing, telecommuting and work-at-home programs, employee education and preferential parking for carpools/vanpools. ▪ CIR-P2.5: Transportation corridors for renewable energy transmission and for new transit lines shall be preserved. ▪ CIR-P2.6: The County shall incorporate “Complete Streets” policies that are designed and built to accommodate pedestrians, bicyclists, and transit users. ▪ CIR-A2.1: Prepare, adopt, and maintain a VMT environmental threshold and development project screening process. ▪ CIR-P3.3: Travel modes shall be interconnected to form an integrated, coordinated, and balanced multimodal transportation system.

RTP/SCS Goal	Project Consistency Analysis
	▪ CIR-P3.4: New development projects shall provide adequate pedestrian, bicycle, and multiuse facilities in a way that integrates circulation and recreational use, commensurate with the impacts of the project, local and regional plans, and consistent with surrounding development. ▪ CIR-P3.5: New neighborhoods shall provide bike and pedestrian connectivity between streets. ▪ CIR-P3.6: Arterial and collector streets shall be designed to enhance the integrity and cohesiveness of urban neighborhoods. ▪ CIR-P3.7: Major residential development projects shall be designed with interconnected collector street patterns and short block lengths. Cul-de-sac and dead-end streets shall conform to County design standards. ▪ CIR-P3.8: Public facilities shall be located and designed to allow for convenient access from public transit and/or bicycle and pedestrian facilities. ▪ CIR-P4.1: The County supports public transit as a viable and attractive alternative to the use of single occupant motor vehicles. ▪ CIR-P4.2: The County supports improved public transit service to be determined through the public process to identify unmet needs and prioritize feasible solutions. Potential improvements could include serving an expanded geographic area, more frequent buses at key times of the day, and improved transit amenities such as bus shelters. ▪ CIR-P5.3: The bicycle system shall be integrated with other transportation modes by connecting bicycle routes and transit stops, providing secure bicycle parking facilities and supporting efforts to expand accommodation of bicycles aboard buses. ▪ CIR-P5.4: Transportation service providers shall be encouraged to incorporate bicycle storage facilities into bus stops and rail stations. ▪ CIR-P5.5: Construction or expansion of major arterials shall incorporate Class II bicycle facilities whenever feasible. Class III Bike routes will be considered where appropriate. ▪ CIR-P5.6: Residential development projects shall incorporate internal circulation networks that encourage bicycle use and that connect to the external bicycle circulation system. ▪ CIR-P5.7: Owners of apartment complexes and major commercial, office, industrial, and educational sites shall provide plentiful, convenient, and centrally located bicycle parking facilities. ▪ CIR-P5.8: All County facilities and park-and-ride lots shall provide appropriate bicycle amenities, including bicycle racks and storage facilities. Consistent. As discussed in the analysis of RTP/SCS Goals 2 and 6, the Upper Ridge Community Plan proposes several transportation and roadway improvements that aim to increase the connectivity of the Plan Area's bicycle and pedestrian trails and increase the safety of existing roadways for bicyclists and pedestrians. These improvements aim to decrease single-occupancy vehicle trips and increase use of alternative transportation modes that would help to achieve the state's air quality goals.
RTP/SCS Goal 10: Provide economical, long-term solutions to transportation problems by encouraging community designs which encourage walking, transit, and bicycling.	Consistent. General Plan 2040 includes the following policies in the Circulation Element that would help implement this goal: ▪ CIR-P3.2: A continuous, integrated, and accessible pedestrian network shall be provided in urbanized areas to encourage walking as a viable transportation mode and as a form of recreation and exercise. ▪ CIR-P3.3: Travel modes shall be interconnected to form an integrated, coordinated, and balanced multimodal transportation system. ▪ CIR-P3.4: New development projects shall provide adequate pedestrian, bicycle, and multiuse facilities in a way that integrates circulation and recreational use, commensurate with the impacts of the project, local and regional plans, and consistent with surrounding development.

RTP/SCS Goal	Project Consistency Analysis
	▪ CIR-P3.5: New neighborhoods shall provide bike and pedestrian connectivity between streets. ▪ CIR-P3.7: Major residential development projects shall be designed with interconnected collector street patterns and short block lengths. Cul-de-sac and dead-end streets shall conform to County design standards. ▪ CIR-P3.8: Public facilities shall be located and designed to allow for convenient access from public transit and/or bicycle and pedestrian facilities. ▪ CIR-P4.6: New development projects in areas served by existing or planned transit shall provide fixed transit facilities such as bus shelters and pullouts, according to expected demand and in coordination with Butte Regional Transit. ▪ CIR-P5.1: Bicycle facilities shall be developed in accordance with the County's adopted Bicycle Master Plan. Consistent. As discussed in the analysis of RTP/SCS Goals 2, 6, and 9, the Upper Ridge Community Plan includes several proposals for land use designs that encourage walking, transit, and bicycling. The Plan would not conflict with this goal.
RTP/SCS Goal 11: Develop and support financing strategies that provide for continuous implementation of the Regional Transportation Plan projects and strategies.	Consistent. General Plan 2040 includes the following policies in the Circulation Element that would help implement this goal: ▪ CIR-P8.2: If there is no regional or local traffic impact fee that applies, approval of new development projects may be conditioned to require payment of the project's proportionate share of the cost of transportation improvements necessary to serve the project. ▪ CIR-P8.3: Urban and rural arterials and collectors shall be considered major thoroughfares for the purpose of collecting appropriate fees allowed under Section 66484 of the Subdivision Map Act. ▪ CIR-P8.4: As funding is available, prioritize improvements and resolve maintenance, access, erosion, and dust issues on rural gravel roads that provide access for residential areas. Consistent. The Upper Ridge Community Plan lists several potential financing and grant sources for funding the improvements discussed in the Plan. These include, but are not limited to, the Affordable Housing and Sustainable Communities Program, SB 1, the Caltrans Active Transportation Program, and the Local Streets and Roads Program. The Plan does not conflict with this goal.
RTP/SCS Goal 12: Provide a forum for participation and cooperation in transportation planning and facilitate relationships for transportation issues that transcend jurisdictional boundaries.	Consistent. General Plan 2040 includes the following policies in the Area Plans Element, Land Use Element, and Environmental Justice Element that would help implement this goal: ▪ D2N-P8.8: Promote citizen participation in planning by establishing and forming planning committees, special-purpose planning groups and other outreach programs. ▪ EJ-P2.6: The County shall provide support to carpooling and vanpooling programs, particularly among Communities of Opportunity, such as by assisting with outreach and program facilitation. ▪ LU-P7.2: The County shall engage young people in long-range planning processes and other County-administered programs and processes through outreach and partnerships with schools and local youth organizations. Consistent. The County conducted four workshops to develop the Upper Ridge Community Plan, primarily for residents of the Upper Ridge area, and encourages participation in the planning process. As such, the Plan supports this RTP/SCS Goal and does not propose any action that would conflict with its implementation.

RTP/SCS Goal	Project Consistency Analysis
RTP/SCS Goal 13: *Mobility Goal*- The transportation system should provide for convenient travel options for people and goods and maximize its productivity. The system should reduce both the time it takes to travel as well as the total costs of travel. *Reliability Goal*- The transportation system should be reliable so that travelers can expect relatively consistent travel times from day-to-day for the same trip by mode(s). *System Preservation and Safety Goal*- The public's investment in transportation should be protected by maintaining the transportation system. It is critical to preserve and ensure a safe regional transportation system.	Consistent. General Plan 2040 includes the following goals and policies in the Circulation Element that would help implement this goal (see the General Plan 2040 goals and policies included in the discussion of RTP/SCS Goals 1 and 4): Goal CIR-4: Promote a balanced and integrated public transit system to maximize efficient mobility that minimizes harm to people when traveling. Goal CIR-9: Provide a circulation system that supports efficient mobility. ▪ CIR-P9.1: All new road systems, both public and private, shall provide for efficient evacuation of residents and adequate access to fire and other emergency services by providing at least two means of emergency access to an interconnected collector system. New road systems will include reduction and maintenance of roadside vegetation. ▪ CIR-P9.2: New development projects shall include safe routes to school where appropriate. Consistent. As discussed under the analysis of previous RTP/SCS goals, the Upper Ridge Community Plan proposes several roadway improvements that aim to increase convenient travel options for the current and future residents of the Plan Area, in addition to providing more reliable and safe roadways in the Plan Area through these improvements. The Plan would not conflict with this RTP/SCS goal.
RTP/SCS Goal 14: Incorporate Sustainable Community Strategies into the regional transportation planning process which works towards social equity, a healthy environment and a prosperous economy.	Consistent. With each RTP update cycle, BCAG prepares an SCS as required under SB 375. The SCS demonstrates the integration of land use, housing, and transportation for the purpose of reducing greenhouse gas (GHG) emissions from passenger vehicles. The SCS Land Use strategy states: "manage growth in a manner which allows the region to meet passenger vehicle greenhouse gas reduction targets while preserving farmland and natural resources, providing opportunities for affordable housing, by increasing mixed use development and development in areas with existing infrastructure, increasing housing and jobs near transit, and providing local housing for the local workforce." The SCS Transportation strategy states: "Serve the transportation needs of the region in a manner which allows the region to meet passenger vehicle greenhouse gas reduction targets through improved and expanded transit, pedestrian and bicycle facilities, and enhanced linkages between travel modes, while maintaining the existing road network and minimizing the addition of general purpose road

RTP/SCS Goal	Project Consistency Analysis
	lanes." The General Plan 2040 goals, policies, and actions discussed above in reference to other RTP/SCS goals support and help implement these SCS strategies. Additionally, several other policies in the Land Use Element support the SCS Land Use strategy: ▪ LU-P14.1: The County shall prevent scattered development patterns and encourage development in existing urbanized areas, and in particular areas that have access to public services and infrastructure. ▪ LU-P14.2: New urban development shall be primarily located in or immediately adjoining already urbanized areas. ▪ LU-P14.3: The County shall encourage efficient urban infill development within municipal limits, municipal spheres of influence, and existing unincorporated communities where development can readily be served by public infrastructure facilities. Consistent. The Upper Ridge Community Plan includes several strategies that align with the County's SCS. Among these are Strategy LU-2.1, which recommends that the General Plan support the provision of multifamily housing on the Upper Ridge in appropriate locations. The land use changes proposed by the Plan would also support the Land Use SCS by increasing mixed-use development in the Plan Area. The Plan supports this RTP/SCS goal and furthermore does not conflict with it.
RTP/SCS Goal 15: To support and collaborate on proactive emergency planning and projects. Projects that increase emergency readiness and preparedness including upgrading and maintaining roadways, public transit or facilities that support emergency situations.	Consistent. General Plan 2040 includes the following policy and action in the Circulation Element that would help implement this goal: ▪ CIR-P9.1: All new road systems, both public and private, shall provide for efficient evacuation of residents and adequate access to fire and other emergency services by providing at least two means of emergency access to an interconnected collector system. New road systems will include reduction and maintenance of roadside vegetation. ▪ CIR-A9.1: Work with federal and State funding sources to create a funding plan to implement improvements for emergency access, evacuation, fire protection, public safety, water quality protection, and circulation and work with appropriate agencies to identify and prioritize projects. Consistent. The Upper Ridge Community Plan includes several strategies that would increase emergency readiness and preparedness of the Plan Area transportation system. Among these include Strategy LU-2.5, which directs the County to support new multifamily housing on the Upper Ridge at sites close to services and evacuation route. Furthermore, the land use changes proposed under the Plan are in areas with easy access for fire crews and close emergency egress routes. The strategies and land use changes proposed by the Plan would support this RTP/SCS goal.
RTP/SCS Goal 16: To support and collaborate on proactive efforts to address housing needs in the region.	Consistent. All goals, policies, and actions in the County's 2022-2030 Housing Element Update address the housing needs of the region. General Plan 2040 would therefore not conflict with the BCAG's goal to support and collaborate on proactive efforts to address housing needs in the region and instead helps to implement this goal. Consistent. As addressed in the analysis of previous RTP/SCS goals, the Upper Ridge Community Plan would encourage the provision of housing in the Plan Area by redesignating 28 parcels from a retail and office designation to a mixed-use designation. This action would increase the amount of allowable housing in the Plan Area, thereby supporting this RTP/SCS goal.

Source: BCAG 2020a.

In addition to the adopted RTP/SCS, BCAG adopted a Supplemental Environmental Impact Report (RTP/SCS SEIR) and Statement of Overriding Consideration for significant and unavoidable impacts related to transportation based on the inability to meet state VMT requirements, largely as a result of the Camp Fire based on the nature of the VMT calculation. The RTP/SCS SEIR included the following strategies for implementing agencies in Mitigation Measure T-1 that prescribe local mitigations to reduce VMT:

1. Increase diversity of land uses.
2. Provide pedestrian network improvements.
3. Provide traffic-calming measures and low-stress bicycle network improvements.
4. Implement car-sharing program.
5. Increase transit service frequency and speed.
6. Implement subsidized or discounted transit program.
7. Encourage telecommuting and alternative work schedules.
8. Provide ride-sharing programs.

As shown in Table 5.16-5, General Plan 2040 includes several policies that incorporate these VMT reducing strategies. Additionally, the land use changes proposed under General Plan 2040 would be generally consistent with these strategies. For example, the proposed project would change the designation of 28 parcels in the Upper Ridge community from office and retail to mixed use. This change is expected to reduce the total VMT of these parcels at full buildout by facilitating development that minimizes the distance between residential and commercial destinations.

Transit and Non-Motorized Transportation Plan

General Plan 2040 reflects the Transit and Non-Motorized Transportation Plan, including short- and long-range transit goals, policies, actions, and projects to support population growth in Butte County. These actions include a focus on maximizing service efficiency, reliability, and effectiveness in ridership markets as well as expanding B-Line services into new areas and commuter rail between Oroville and Sacramento. General Plan 2040 is supportive of public transit and includes a number of policies in the Circulation Element, including CIR-4.1, CIR-4.2, CIR-4.3, CIR-4.4, CIR-4.5, and CIR-4.6 and would not disrupt or interfere with existing or planned public transit facilities.

Bicycle Plan

The proposed project does not consist of any land use changes or development projects outside of the URCP area, and therefore would not conflict with the implementation of any bicycle routes proposed in the Bikeway Plan. The Plan includes the following goals:

1. Provide a safe and efficient bikeway system.
2. Provide continuous and convenient bicycle access to and between major destinations throughout the county.
3. Improve bicycling safety through driver and cyclist education programs.

4. Develop a bikeway system that encourages and facilitates bicycle commuting as an alternate means of transportation.
5. Develop a bikeway system that encourages and facilitates recreational use.
6. Promote fitness and health benefits through increased opportunities for bicycling activity.
7. Pursue and obtain maximum funding available for bikeway projects and programs.

General Plan 2040 does not include any goals, policies, or actions that would conflict with the stated goals of the Bicycle Plan and furthermore contains several policies that support and implement the plan's goals. These include policies CIR-P2.6, CIR-P3.4, CIR-P3.8, CIR-P5.1, CIR-P5.2, CIR-P5.3, CIR-P5.4, CIR-P5.5, CIR-P5.6, CIR-P5.7, and CIR-P5.8. Relevant actions include the following.

- Action CIR-A5.1: Periodically update the Bicycle Master Plan.
- Action CIR-A5.2: Continue to utilize BCAG's GIS mapping database of current and proposed bicycle routes and facilities countywide.
- Action CIR-A5.3: Pursue sources of funding to improve and maintain the existing bicycle system and to plan and construct new bicycle facilities that encourage commuting and recreation.

Level of Significance Before Mitigation: TRANS-1 would be less than significant.

Mitigation Measures

No mitigation measures are required.

Upper Ridge Community Plan

As discussed in Chapter 3, *Project Description,* the URCP would increase development potential in the Upper Ridge community by redesignating 28 parcels from Retail and Office to Mixed-use land uses in the Old Magalia and Magalia Center neighborhoods.

As discussed in Chapter 6 of the URCP, a number of roadway and bikeway improvements have been proposed for the URCP area. Improvements in bicycle, pedestrian, and transit infrastructure are proposed for the Magalia Center neighborhood, including multiuse trails connecting all parts of the conceptual development. The plan also proposes an expanded shoulder and painted buffer to create an improved bike lane on Skyway; a connection from the existing Paradise Pine Property Owners Association greenbelt system to Magalia Center and the proposed Lakeridge Park; and a proposed Upper Ridge Connector Trail extending from the Yellowstone Kelly Trail northward all the way to Lake De Sabla, also connecting Paradise Lake, Coutolenc Park, Magalia Reservoir, and the proposed Lakeridge Park west of the reservoir.

All proposed circulation improvements are consistent with General Plan 2040, the Transit and Non-Motorized Transportation Plan, and the County Bicycle Plan. Furthermore, as described in Table 5.16-5, the URCP is consistent with all goals in the 2020 RTP/SCS. Therefore, impacts are less than significant.

Level of Significance Before Mitigation: TRANS-1 would be less than significant.

Mitigation Measures

No mitigation measures are required.

TRANS-2	The proposed project would not conflict with or be inconsistent with CEQA Guidelines Section 15064.3(b)

General Plan 2040

As stated in the Butte County CEQA Interim Transportation Thresholds, a project would cause a significant VMT impact if it generated VMT per capita above the County baseline average. This baseline can be derived from the BCAG RTP/SCS Regional Travel Demand Model, which was developed for the 2020 RTP/SCS. The initial model for the RTP/SCS shows a 2020 base of 4,508,072 daily VMT and 19.5 VMT per capita for the BCAG region (BCAG 2020b). Under the growth assumptions of 2020 RTP/SCS, the total daily VMT is expected to increase to 5,332,327 miles per day in 2040 through an estimated population of 259,524. The projected VMT per capita is 20.5 miles per person per day.

As described in Chapter 5.3*, Air Quality,* the projected VMT per person per day for the entire county under General Plan 2040 for the horizon year 2040 is 20.99 miles per person per day with a population assumption of 267,791 (see Transportation Methodology in Section 5.3.2.1). The projected 2040 daily VMT is 5,620,000 under General Plan 2040. The 2021 Butte County CAP's daily total VMT forecast for the county in 2040 also projects 5,620,000 daily total VMT. Since General Plan 2040 does not propose any development projects or land use changes, with the exception of the URCP discussed below, VMT in the county is expected to remain largely consistent with the previous modeling and growth assumptions of the CAP. However, the modeled VMT per capita under General Plan 2040 exceeds that of the BCAG RTP/SCS in 2040.

To lower the County's projected VMT and implement the strategies listed in the CAP and RTP/SCS, General Plan 2040 includes the following goals, policies, and actions that aim to reduce VMT:

- Goal CIR-2: Strive to operate and modify the transportation network to accommodate planned land use growth in a manner that reduces per-capita vehicle miles traveled (VMT) and related greenhouse gas and air pollutant emissions.
    - CIR-P2.1: Carpooling shall be encouraged at major job and activity centers by providing information on how to participate in available private and public programs.
    - CIR-P2.2: Trip reduction among County employees shall be encouraged. Specific measures to encourage trip reduction could include providing subsidies, bicycle facilities, alternative work schedules, ridesharing, telecommuting and work-at-home programs, employee education, and preferential parking for carpools/vanpools.
    - CIR-P2.3: Home occupations shall be encouraged through streamlined application processes that are appropriate to the intensity and proposed uses of the home business.
    - CIR-P2.4: Employers shall be encouraged to provide transit subsidies, bicycle facilities, alternative work schedules, ridesharing, telecommuting and work-at-home programs, employee education and preferential parking for carpools/vanpools.

- CIR-P2.5: Transportation corridors for renewable energy transmission and for new transit lines shall be preserved.
- CIR-P2.6: The County shall incorporate "Complete Streets" policies that are designed and built to accommodate pedestrians, bicyclists, and transit users.
- CIR-A2.1: Prepare, adopt, and maintain a VMT environmental threshold and development project screening process.

- Goal CIR-3: Design new neighborhoods and improve existing neighborhoods to accommodate and promote alternative modes of transportation.
  - CIR-P3.1: The County supports improved connections to other regional transportation services, such as rail and regional/national bus lines, to connect Butte County communities with each other.
  - CIR-P3.2: A continuous, integrated, and accessible pedestrian network shall be provided in urbanized areas to encourage walking as a viable transportation mode and as a form of recreation and exercise.
  - CIR-P3.3: Travel modes shall be interconnected to form an integrated, coordinated, and balanced multimodal transportation system.
  - CIR-P3.4: New development projects shall provide adequate pedestrian, bicycle, and multiuse facilities in a way that integrates circulation and recreational use, commensurate with the impacts of the project, local and regional plans, and consistent with surrounding development.
  - CIR-P3.5: New neighborhoods shall provide bike and pedestrian connectivity between streets.
  - CIR-P3.6: Arterial and collector streets shall be designed to enhance the integrity and cohesiveness of urban neighborhoods.
  - CIR-P3.7: Major residential development projects shall be designed with interconnected collector street patterns and short block lengths. Cul-de-sac and dead-end streets shall conform to County design standards.
  - CIR-P3.8: Public facilities shall be located and designed to allow for convenient access from public transit and/or bicycle and pedestrian facilities.
  - CIR-A3.1: In conjunction with the Butte County Association of Governments, seek funding to develop a plan to support and promote rail service that will connect Butte County with other regions and connect Butte County communities with each other.
- Goal CIR-4: Promote a balanced and integrated public transit system to maximize efficient mobility that minimizes harm to people when traveling.
  - CIR-P4.1: The County supports public transit as a viable and attractive alternative to the use of single occupant motor vehicles.
  - CIR-P4.2: The County supports improved public transit service to be determined through the public process to identify unmet needs and prioritize feasible solutions. Potential improvements could include serving an expanded geographic area, more frequent buses at key times of the day, and improved transit amenities such as bus shelters.

- CIR-P4.3: The County supports public transportation programs that promote access to shopping, employment, education, health care, and recreation.
- CIR-P4.4: The County encourages the Butte County Association of Governments to provide shuttles from local transit stations to special event centers.
- CIR-P4.5: The County continues to support local Amtrak passenger services.
- CIR-P4.6: New development projects in areas served by existing or planned transit shall provide fixed transit facilities such as bus shelters and pullouts, according to expected demand and in coordination with Butte Regional Transit.
- CIR-A4.1: Support efforts by the Butte County Association of Governments to evaluate alternate sources of funding for public transit, such as advertising revenue from buses and bus shelters.

- Goal CIR-5: Provide a continuous, integrated, and accessible bicycle system to encourage the use of the bicycle as a viable transportation mode and as a form of recreation and exercise.
  - CIR-P5.1: Bicycle facilities shall be developed in accordance with the County's adopted Bicycle Master Plan.
  - CIR-P5.2: New bicycle routes and paths shall create a bicycle environment that minimizes harm when people ride.
  - CIR-P5.3: The bicycle system shall be integrated with other transportation modes by connecting bicycle routes and transit stops, providing secure bicycle parking facilities and supporting efforts to expand accommodation of bicycles aboard buses.
  - CIR-P5.4: Transportation service providers shall be encouraged to incorporate bicycle storage facilities into bus stops and rail stations.
  - CIR-P5.5: Construction or expansion of major arterials shall incorporate Class II bicycle facilities whenever feasible. Class III Bike routes will be considered where appropriate.
  - CIR-P5.6: Residential development projects shall incorporate internal circulation networks that encourage bicycle use and that connect to the external bicycle circulation system.
  - CIR-P5.7: Owners of apartment complexes and major commercial, office, industrial, and educational sites shall provide plentiful, convenient, and centrally located bicycle parking facilities.
  - CIR-P5.8: All County facilities and park-and-ride lots shall provide appropriate bicycle amenities, including bicycle racks and storage facilities.
  - CIR-A5.1: Periodically update the Bicycle Master Plan.
  - CIR-A5.2: Continue to utilize BCAG's GIS mapping database of current and proposed bicycle routes and facilities countywide.
  - CIR-A5.3: Pursue sources of funding to improve and maintain the existing bicycle system and to plan and construct new bicycle facilities that encourage commuting and recreation.
- Goal CIR-7: Develop a transportation system that is consistent with and will support existing and proposed patterns and densities of land use and that encourages efficient land utilization.

  - CIR-P7.2: Existing road capacity available within the County road system shall be used to serve future development unless construction of a new road will enhance circulation opportunities.
  - CIR-P7.3: New roads shall be located to encourage development near existing highway corridors and existing rural community centers.
- Goal LU-8: Promote development near existing infrastructure and services, and within already-developed areas.
  - LU-P8.1: Industry shall be near major transportation facilities.
  - LU-P8.2: The County shall direct projected growth to areas where the appropriate level of transportation infrastructure is or will be available during the planning period.
  - LU-P8.3: Applicants intending to develop sites served by existing public facilities shall be encouraged to develop at the highest allowable density and intensity.
  - LU-P8.4: New industrial development shall be encouraged to locate in existing industrial areas until existing industrial areas have been fully utilized.
  - LU-P8.5: Stores providing goods and services to support daily life in neighborhoods should be within walking distance to the majority of neighborhoods.
  - LU-P8.6: The County shall encourage the construction of housing near employment centers, along with additional employment-generating uses near areas that are primarily residential.
  - LU-P8.7: Land use patterns and development shall support the State's ability to achieve its vehicle miles traveled (VMT) and greenhouse gas (GHG) reduction goals, and the County's own VMT thresholds of significance.
  - LU-P8.8: The County may exempt projects within developed communities, as depicted in Figure LU-6 of General Plan 2040, that are consistent with this General Plan and associated zoning regulations from additional review under the California Environmental Quality Act (CEQA), as allowed under Section 15183 of the CEQA Guidelines.

Each of these goals, policies, and actions are consistent with both the RTP/SCS and CAP's strategies to reduce VMT and would ensure that future growth in the County minimizes VMT to the extent possible. Since the growth expected under General Plan 2040 is consistent with previous plans, including the previous General Plan update and the County CAP, and includes a variety of goals, policies, and actions that would reduce the VMT of future development, the proposed project would not conflict with or be inconsistent with CEQA Guidelines Section 15064.3(b). Therefore, impacts are less than significant.

Level of Significance Before Mitigation: TRANS-2 would be less than significant.

Mitigation Measures

No mitigation measures are required.

Upper Ridge Community Plan

As discussed in Chapter 3, *Project Description,* the URCP would increase development potential in the Upper Ridge community by redesignating 28 parcels from Retail and Office to Mixed-use land uses in the Old Magalia and Magalia Center neighborhoods. As shown in Figure CIR-3, of the proposed Circulation Element, the Old Magalia parcels are located in BCAG Traffic Analysis Zone (TAZ) number 1213. The green TAZs shown in this figure generate residential VMT at rates below the OPR Technical Advisory recommended threshold of 15 percent below the regional average. As such, these TAZs qualify as low VMT areas under the OPR Technical Advisory. Residential projects in these zones may be presumed to have a less-than-significant VMT impact if they are expected to exhibit similarly low VMT levels. TAZ 1213 generates residential VMT at rates less than 15 percent below the County average (16.7 per resident) in 2020. However, as shown on Figure CIR-4 of the proposed Circulation Element, this TAZ generates employee-based VMT higher than 15 percent below the County average. The land use change associated with these parcels would allow the development of both residential and commercial uses, as opposed to exclusively commercial uses, which would likely result in less overall commercial development when compared to the potential buildout under the existing land use designation. Since the proposed project would allow increased residential development and potentially decreased commercial development, it can be assumed that the resulting VMT would be less than 15 percent below the county's average. Additionally, as stated in the proposed General Plan, the CAP, RTP/SCS, and the OPR technical advisory, a mix of uses generally leads to decreased VMT; therefore, mixed-use development of the Old Magalia parcels is likely to result in a reduction of VMT.

The Magalia Center parcels are not located in a TAZ with a home-based or employee-based VMT rate that is less than 15 percent below the county baseline average. While VMT modeling has not yet been generated for the Magalia Center concept described in the URCP, the Upper Ridge Community Plan Multi-Modal Transportation Circulation Feasibility and Capacity memo shows the estimated vehicle trips that would result from the proposed concept. The concept, which proposes 30,000 square feet and 120 residential units, would generate approximately 1,800 daily net new vehicle trips, which is a 36 percent increase over the estimated trips currently generated within the Lakeridge Circle area. These figures represent the total new vehicle trips generated by the project that would be added to the surrounding roadway network, as seen in Table 5.16-6, *Magalia Center Mixed Use Concept – Vehicle Trip Generation* (Butte County 2021b). However, the trips generated by new housing in this Magalia Center concept is a substitute for trips generated by planned commercial development, rather than additional trips. An example is the two traffic signals, one at each intersection of the Lakeridge Circle loop at Skyway, which can absorb much more traffic than exists currently. The trips generated by new housing are not anticipated to impact these intersections significantly (Butte County 2022).

TABLE 5.16-6 MAGALIA CENTER MIXED USE CONCEPT – VEHICLE TRIP GENERATION

Category	Units	Daily Trips	A.M. Peak Hour			P.M. Peak Hour		
		Total	Total	In	Out	Total	In	Out
Residential Component	120 DU	155,016	965	68	17	52	83	52
Commercial Component	105 KSF	75,040	6215	204	126	78	563	270
Project Total (Gross)		230,056	7180	272	143	130	646	322
Existing Project Site	75 KSF	60,602	-4944	-189	-117	-72	-439	-211
New Commercial Pass-By	30 KSF	33,756	-423	-5	-3	-2	-42	-20
Project Total (Net Increase in New Trips)		94,358	1804	78	23	56	165	91
Percentage Increase of New Trips			36%	41%	20%	78%	38%	43%

DU = dwelling unit; KSF = thousand square feet.
Source: Butte County 2021b.

As stated in the County's CEQA Interim Transportation Thresholds, if a project within an SOI or near an established community extends the existing transportation network, ensures connectivity and compatibility with multi-modal mobility plans of the affected agency, the project would be screened from requiring additional VMT analysis. For other areas of the county, projects that provide for pedestrian connectivity and a mix of complementary land uses would be screened from requiring additional VMT analysis. As discussed previously throughout this section, the URCP includes several proposals to increase multi-modal connectivity to improve pedestrian and bicycle access throughout the Magalia Center concept plan area in addition to the URCP area. While the eligibility of projects under the URCP for VMT screening will be determined by the County under its Pre-Application Review process when development proposals are submitted, the proposals discussed in the Upper Ridge Community are expected to reduce VMT in the Plan Area. Additionally, the land use changes in Magalia Center proposed under General Plan 2040 and the URCP would allow a mix of uses, which is also expected to reduce VMT when compared to the potential buildout under the existing land use. Furthermore, all applicable development in the unincorporated county would be required to comply with the proposed General Plan 2040 policies, which further aim to ensure that VMT from future development is reduced to the extent possible. Therefore, impacts of the URCP would be less than significant.

Level of Significance Before Mitigation: TRANS-2 would be less than significant.

Mitigation Measures

No mitigation measures are required.

TRANS-3	The proposed project would not substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment).

General Plan 2040

General Plan 2040 does not propose any development or land use changes outside of the Upper Ridge community, which are discussed below. Furthermore, General Plan 2040 includes several policies that would limit potential hazards induced by increased traffic volumes. In particular, Circulation Element Policy CIR-P6.1 states that the County shall strive to maintain an LOS D or better during the peak hours for County-maintained roads within the unincorporated areas of the county. Policy CIR-P6.2 states that parcels adjacent to highways and significant roadways shall have only limited access to these facilities to maintain traffic flow and minimize potential collisions. Development shall consider access from the lowest road classification where available and feasible. In addition, Policy CIR-P6.3 requires that street improvements within the SOI of an incorporated municipality shall conform to the street standards of that municipality, and Policy CIR-P6.4 states that major new development projects and subdivisions, as determined by the Department of Development Services, as well as other projects that meet the thresholds under the County's Traffic Impact Study Guidelines, shall prepare and implement traffic studies to assess and mitigate adverse impacts to local and regional transportation facilities. All projects under General Plan 2040 would be required to adhere to these policies as well as the County's Improvement Standards and development standards. Therefore, the Implementation of the policies in General Plan 2040 would make this impact less than significant.

Level of Significance Before Mitigation: TRANS-3 would be less than significant.

Mitigation Measures

No mitigation measures are required.

Upper Ridge Community Plan

As discussed in Chapter 3, *Project Description,* the URCP would increase development potential in the Upper Ridge community by redesignating 28 parcels from Retail and Office to Mixed-use land uses in the Old Magalia and Magalia Center neighborhoods. As stated in the URCP, the parcels chosen for redesignation/rezoning are in proximity to the Upper Ridge's primary road, Skyway. The URCP discusses proposals to improve evacuation access on this road through the implementation of roadway improvements and signage in addition to improving bicycle access on Skyway. These proposals are expected to improve the safety and accessibility on Skyway for all modes of transportation.

However, the proposed project does not include any development proposals and the design concepts and roadway improvements discussed in the URCP are conceptual. When or if any future improvements within the county road right-of-way are proposed, they would be subject to a Butte County Encroachment Permit from the Public Works Department and would be constructed to all applicable State and local development standards. Furthermore, the redesignation of the 28 parcels would not introduce incompatible uses to these sites. The current designation allows commercial uses and the proposed designation would allow both commercial and residential uses. The uses of the parcels surrounding the proposed mixed-use parcels are primarily rural residential. Therefore, impacts would be less than significant.

Level of Significance Before Mitigation: TRANS-3 would be less than significant.

Mitigation Measures

No mitigation measures are required.

TRANS-4 The proposed project would not result in inadequate emergency access.

General Plan 2040

The County maintains roadway networks in the unincorporated communities, and such networks would provide access to new development sites under General Plan 2040 in accordance with industry design standards, including the County's Improvement Standards and applicable development would be subject to the requirements of the California Fire Safe Regulations (Title 14 of the California Code of Regulations). Adherence to such standards would generally ensure that the physical network would be free of obstructions to emergency responders. Emergency access to new development sites proposed under General Plan 2040 would be subject to review by the County and responsible emergency service agencies, thus ensuring the projects would be designed to meet all emergency access and design standards.

Additionally, General Plan 2040 includes policies that support maintaining sufficient emergency access.

Health and Safety Element Policy HS-P16.5 states that emergency access routes shall be kept free of traffic impediments. Policy HS-P18.6 states that the County shall prioritize roadway improvements on evacuation routes to improve emergency evacuation and access functions, where feasible, including paving, regrading, adding passing zones and pull-outs, and clearing vegetation. Policy HS-P16.6 states that streets and developed properties shall be clearly marked to enable easy identification. Circulation Element Policy CIR-P9.1 requires that all new road systems, both public and private, shall provide for efficient evacuation of residents and adequate access to fire and other emergency services by providing at least two means of emergency access to an interconnected collector system. Action CIR-A9.1 implements this policy and directs the County to work with federal and State funding sources to create a funding plan to implement improvements for emergency access, evacuation, fire protection, public safety, water quality protection, and circulation and work with appropriate agencies to identify and prioritize projects.

Several other policies target efforts to limit development in high-hazard areas and maintain adequate evacuation routes. Health and Safety Element Policy HS-P2.4 prohibits development in 100-year flood zones if it would create difficult emergency vehicle access in times of flood. Policy HS-P13.1 requires new development in High or Very High Fire Hazard Severity Zones and the wildland-urban interface, as shown in Figure HS-11 of the Health and Safety Element or the most current data available from CAL FIRE, to identify at least two points of access for day-to-day access and evacuation purposes and make improvements to develop, upgrade, and maintain these routes to ensure adequate capacity of evacuation routes.

Implementation of the policies in General Plan 2040 would make this impact less than significant.

Level of Significance Before Mitigation: TRANS-4 would be less than significant.

Mitigation Measures

No mitigation measures are required.

Upper Ridge Community Plan

As discussed in Chapter 3, *Project Description*, the URCP would increase development potential in the Upper Ridge community with 28 parcels redesignated from Retail and Office to Mixed-Use land uses in the Old Magalia and Magalia Center neighborhoods. The URCP includes strategies to increase access to and from the Upper Ridge, ultimately improving evacuation capacity and staying consistent with the evacuations plans and maps in place. These evacuation access improvements would also improve access for emergency vehicles. These roadway improvement recommendations are shown in Figure 6.1 of the URCP and can be summarized as follows:

- Widen Skyway where it crosses Magalia Dam.
- Pave the route north of Lake De Sabla connecting to SR 32 via Doe Mill Road and Garland Road.
- Provide a bypass of the Magalia Reservoir Dam by improving Coutolenc Road and Hupp Coutolenc Road around Paradise Lake.
- Improve Centerville Road leading southwest from Nimshew Road to Honey Run Road into Chico.
- Extend Athens Way down to Skyway in the Town of Paradise, crossing over Little Butte Creek in the process.
- Improve existing Ponderosa Way to allow vehicles connecting from Paradise Pines to Nimshew Road.
- Expand some dead-end roads in neighborhoods such as Fir Haven to allow emergency ingress and egress routes.

The URCP also provides the following strategy that prioritizes these improvements.

- **Strategy CIR-1.2:** Prioritize near-term roadway improvements on existing evacuation routes to improve their emergency function (e.g., widening, adding passing zones on narrow routes, and adding pull-outs). These roadways include, but are not limited to:
    - Add new roadway connections, where feasible and beneficial, to convert dead-end roads to continuous routes, providing improved access for both every day and emergency functions.
    - Work with property owners to investigate establishing certain private roads as publicly accessible evacuation routes to provide connections to primary evacuation routes.

Furthermore, the URCP area is primarily in a very high hazard severity zone within a State Responsibility Area (SRA). SRAs are regulated by Public Resources Codes 4290 and 4291 (California Fire Safe Regulations), which establish standards for access roads and signage. Applicable development in the Upper Ridge area would be required to comply with these standards. Implementation of these standards, as well as oversight by Butte County Fire/CAL FIRE, would ensure that future development in the Upper Ridge has adequate emergency access. Therefore, impacts would be less than significant.

Level of Significance Before Mitigation: TRANS-4 would be less than significant.

Mitigation Measures

No mitigation measures are required.

5.16.5 CUMULATIVE IMPACTS

TRANS-5	The proposed project, in combination with past, present, and reasonably foreseeable projects, would result in less-than-significant cumulative impacts with respect to transportation.

As discussed previously, the proposed project is not expected to result in VMT levels above the County's threshold in the long-term. The proposed land use changes under General Plan 2040 would allow for greater flexibility of uses on 28 parcels in the URCP area. Additionally, the URCP includes several proposals to improve mobility and circulation in the Plan Area for all modes of transportation. While some projects could produce VMT above the County's threshold in the short-term, the change proposed under General Plan 2040 is expected to produce a decrease in VMT levels under full buildout when compared to full buildout of the parcels under their current land use designation. Compliance with County and State standards will ensure that all cumulative development in the County has adequate emergency access and does not result in roadway hazards. Therefore, cumulative impacts are less than significant.

Level of Significance Before Mitigation: TRANS-5 would be less than significant.

Mitigation Measures

No mitigation measures are required.

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5.17 UTILITIES AND SERVICE SYSTEMS

This chapter describes the regulatory framework and existing conditions in the Plan Area related to utilities and service systems, and the potential impacts of the project on utilities and service systems.

The information in the Existing Conditions sections of this chapter was provided by the Butte County General Plan Setting and Trends document, which was prepared in 2021 for General Plan 2040.

5.17.1 WATER

5.17.1.1 ENVIRONMENTAL SETTING

This section summarizes key federal and State agencies and regulations that govern water service in Butte County.

Regulatory Framework

Regulatory Agencies

The US Environmental Protection Agency (EPA) is the federal agency assigned to maintain safe water throughout the country. Butte County is in EPA Region 9, which includes Arizona, California, Hawaii, Nevada, the Pacific Islands, and over 140 tribal nations.

The California Department of Public Health's Drinking Water Program is in the Division of Drinking Water and Environmental Management. The program regulates public water systems; certifies drinking water treatment and distribution operators; supports and promotes water system security; provides support for small water systems and for improving technical, managerial, and financial capacity; and provides funding opportunities for water system improvements. The field operations branch of the program is responsible for the enforcement of the federal and California Safe Drinking Water Acts and the regulatory oversight of approximately 7,500 public water systems to ensure the delivery of safe drinking water to all Californians. In this capacity, field operations branch staff perform field inspections, issue operating permits, review plans and specifications for new facilities, take enforcement actions for noncompliance with laws and regulations, review water quality monitoring results, and support and promote water system security (SWRCB 2021a).

The California State Water Resources Control Board (SWRCB) and the nine Regional Water Quality Control Boards (RWQCB) are responsible for controlling water pollution sources to protect the State's surface waters and ground waters for all beneficial uses, including domestic and municipal water supply uses.

The California Department of Water Resources is responsible for the overall management of California's water resources. It oversees regulation of water service availability, including Senate Bills (SB) 610 and 221 and the California Urban Water Management Planning Act, as described below.

Federal Regulations

Federal Safe Drinking Water Act

The Safe Drinking Water Act authorizes the EPA to set national standards for drinking water, called the National Primary Drinking Water Regulations, to protect against both naturally-occurring and man-made contaminants. These standards set enforceable maximum contaminant levels in drinking water and require all water providers in the United States to treat water to remove contaminants, except for private wells serving fewer than 25 people. In California, the State Department of Health Services conducts most enforcement activities. If a water system does not meet standards, it is the water supplier's responsibility to notify its customers.

State Regulations

California Porter-Cologne Water Quality Control Act

Under the Porter-Cologne Water Quality Control Act, which was passed in California in 1969, the SWRCB has the ultimate authority over State water rights and water quality policy. Porter-Cologne also establishes nine RWQCBs to oversee water quality on a day-to-day basis at the local and regional level. RWQCBs engage in a number of water quality functions in their respective regions and regulate all pollutant or nuisance discharges that may affect either surface water or groundwater. Butte County is overseen by the Central Valley RWQCB.

Senate Bills 610 and Senate Bill 221

SB 610 and SB 221 amended State law to ensure better coordination between local water supply and land use decisions, and ensure adequate water supply for new development. Both statutes require that detailed information regarding water availability be provided to city and county decision-makers prior to approval of large development projects.

California Urban Water Management Planning Act

Through the Urban Water Management Planning Act of 1983, the California Water Code requires all urban water suppliers within California to prepare and adopt an Urban Water Management Plan and update it every five years. This requirement applies to all suppliers providing water to more than 3,000 customers or supplying more than 3,000 acre-feet of water annually.[1] The Act is intended to support conservation and efficient use of urban water supplies at the local level. It requires that total projected water use be compared to water supply sources over the next 20 years in five-year increments, that planning occur for single and multiple dry water years, and that plans include a water recycling analysis that incorporates a description of the wastewater collection and treatment system within the agency's service area along with current and potential recycled water uses (SWRCB 2021b).

[1] One acre-foot is the amount of water required to cover 1 acre of ground (43,560 square feet) to a depth of 1-foot.

California Groundwater Management Act

The Groundwater Management Act of the California Water Code (Assembly Bill [AB] 3030) provides guidance for applicable local agencies to develop a voluntary groundwater management plan in State-designated groundwater basins. Groundwater management plans can allow agencies to raise revenue to pay for measures influencing the management of the basin, including extraction, recharge, conveyance, facilities' maintenance, and water quality (DWR 2021).

Local Regulations

Butte County General Plan 2030

The following policies are included in the existing General Plan regarding water services. The numbering is from the existing General Plan and therefore may not be consecutive.

Land Use Element

- LU-P9.1: The County shall work with municipalities and service providers to ensure that services are available for new development and consistent with master plans.
- LU-P9.3: The County shall work cooperatively with the Local Agency Formation Commission (LAFCO), municipalities and all irrigation districts if annexation of agricultural areas is proposed for urban development to ensure the integrity of irrigation structures that serve off-site landowners.
- LU-P9.5: New development projects shall provide their own infrastructure or tie in to existing infrastructure as it is built.
- LU-P9.6: Large development projects, as determined by the Department of Development Services that may not be served at adequate levels by existing public services (e.g. staffing, equipment and facilities) shall be subject to additional fiscal review before gaining full entitlements to develop. The applicant shall prepare a fiscal impact analysis that identifies any fiscal mitigation measures needed to ensure that the County will be able to maintain adequate service levels and fiscal sustainability.
- LU-P10.2: New development projects shall pay their fair share of public improvement costs for countywide infrastructure, facilities, and services, and shall fund needed infrastructure and facilities proportionately to the cost of providing infrastructure and services.
- LU-P10.3: Applicants for new development projects that will not be adequately served by existing infrastructure and facilities and/or through the adopted countywide impact fee program shall prepare a public facilities financing plan that identifies the needed public improvements and establishes a plan to pay for and develop the required public improvements.
- LU-A10.2: Continue to set aside a portion of General Fund monies each year in order to fund existing development's share of new public facilities costs that cannot be charged to a development impact fee program, or develop other sources of revenues to generate funds.
- LU-P12.8: Staff shall notify all local public agencies of the Government Code requirements for review of public works projects and solicit their assistance and timely submittal of proposed projects.

- LU-A12.3: It is recommended that Butte County and the Airport Land Use Commission update the Butte County Airport Land Use Compatibility Plan.

Water Resources Element

- Goal W-1 Maintain and enhance water quality.
  - W-P1.1 County planning and programs shall be integrated with other watershed planning efforts, including best management practices, guidelines and policies of the Central Valley Regional Water Quality Control Board (CVRWQCB).
  - W-P1.2 The County shall cooperate with State and local agencies in efforts to identify and eliminate or minimize all sources of existing and potential point and non-point sources of pollution to ground and surface waters, including leaking fuel tanks, discharges from storm drains, auto dismantling, dump sites, sanitary waste systems, parking lots, roadways and logging and mining operations.
  - W-P1.3 Regulations that protect water quality from the impacts from agricultural activities shall be maintained.
  - W-P1.4 Where appropriate, new development shall be Low Impact Development (LID) that minimizes impervious area, minimizes runoff and pollution and incorporates best management practices.
  - W-P1.5 Pest-tolerant landscapes shall be encouraged to minimize the need for pesticides.
  - W-P1.6 Educational programs and outreach shall be continued to promote water quality protection and limit pollution from pesticides and nutrients in urban and domestic settings.
  - W-P1.7 Agriculture, logging, mining, recreational vehicle use and other open space uses shall follow best management practices to minimize erosion and protect water resources.
  - W-P1.8 The County supports conversion from septic systems to public sewer service, where feasible.
  - W-P1.9 The County supports the establishment of a system for proper disposal of expired medications.
- Goal W-2 Ensure an abundant and sustainable water supply to support all uses in Butte County.
  - W-P2.1 The County supports solutions to ensure the sustainability of community water supplies.
  - W-P2.2 The County may continue the Four-County Memorandum of Understanding (MOU) with Colusa, Glenn, Tehama and Sutter Counties, and may support the development of the Northern Sacramento Valley Integrated Regional Water Management Plan.
  - W-P2.3 Water resources shall be planned and managed in a way that relies on sound science and public participation.

- W-P2.4 The County's State Water Project allocation should be fully utilized within Butte County.
- W-P2.5 The expansion of public water systems to areas identified for future development on the General Plan land use map is encouraged.
- W-P2.6 The County supports water development projects that are needed to supply local demands.
- W-P2.7 The Butte County Water Commission and the Department of Water and Resource Conservation shall continue to be utilized as important partners in the water resource planning process.
- W-P2.8 The County supports Area of Origin water rights, the existing water right priority system and the authority to make water management decisions locally to meet the county's current and future needs, thereby protecting Butte County's communities, economy and environment.
- W-P2.9 Applicants for new major development projects, as determined by the Department of Development Services, shall demonstrate adequate water supply to meet the needs of the project, including an evaluation of potential cumulative impacts to surrounding groundwater users and the environment.

Conservation and Open Space Element

- Goal COS-3 Promote a sustainable energy supply.
  - COS-P3.1 The expansion and increased efficiency of hydroelectric power plants in the county shall be encouraged, provided that such plants can be expanded and that significant adverse environmental impacts associated with such plants can be successfully mitigated.
  - COS-P3.2 The development of renewable fuel sources in the county shall be encouraged, provided that such fuel sources can be built or expanded and that significant adverse environmental impacts associated with such development can be successfully mitigated.
  - COS-P3.3 Utility lines shall be constructed along existing utility corridors wherever feasible.
  - COS-P3.4 Solar-oriented and renewable design and grid-neutral development shall be encouraged.
  - COS-P3.5 Developers shall give homebuyers the option of having renewable heat and power incorporated into new homes.
  - COS-P3.6 Alternative energy sources such as solar shall continue to be used for County facilities, which set an example for others to follow.
  - COS-P3.7 Wind power generation facilities, solar power generation facilities, and other alternative energy facilities shall be encouraged in all General Plan land use designations, consistent with zoning provided that significant adverse environmental

impacts associated with such development can be successfully mitigated. All new proposed energy projects shall be compatible with the Military Operations Areas (MOAs) shown on Figure LU-5.

Butte County Code of Ordinances

The Butte County Code of Ordinances includes the following provisions that would help preserve water resources and ensure that water services are provided to all parts of the county.

- Chapter 43, Section 43-9, Water Fees. Public Health Department fees for Water services shall be as adopted by Resolution of the Board of Supervisors as part of the Butte County Master Fee Schedule. These fees are subject to periodic adjustment based on the United States Department of Labor, Bureau of Labor Statistics Employment Cost Index for State and Local Government.
- Chapter 24, Section 24-112, Model Water Efficient Landscaping Ordinance. All applicable development in Butte County shall also comply with the Model Water Efficient Landscaping Ordinance prepared by the California Department of Water Resources, when required by the California Water Conservation in Landscaping Act (Government Code Section 65591 et seq.) If conflicts occur between the Model Water Efficient Landscaping Ordinance and the Zoning Ordinance, the more restrictive shall control.

Upper Ridge Community Plan

The Butte County Board of Supervisors accepted the Upper Ridge Community Plan (URCP) on March 8, 2022. General Plan 2040 Policy LU-P15.2 states: this General Plan hereby incorporates by reference the policies and actions identified in the Upper Ridge Community Plan for the corresponding planning area. The following strategies are included in the existing URCP regarding water supply. The numbering is from the plan and therefore may not be consecutive.

- Strategy HS-1.1: Develop alternative water supplies to support the Upper Ridge during drought conditions.
  - Increase the use of rainwater catchment and retention systems as a source of landscaping irrigation and outdoor water use.
  - Incentivize the installation of greywater systems in existing and new development through grants or other funding mechanisms.
- Strategy HS-1.2: Encourage alternative forms of recreation on the Upper Ridge that are less dependent on water levels of Paradise Lake and Magalia Reservoir, such as hiking, horseback riding, and mountain biking.
- Strategy HS-1.3: Work with Del Oro Water company to develop a water conservation education program for community residents and visitors.
- Strategy UI-1.1: Find ongoing funding sources for testing of water lines and replacement of private service lines for properties affected by the Camp Fire and seeking to rebuild.

Existing Conditions

Water Sources

Butte County is in the Sacramento River Hydrological Region, which covers approximately 17 million acres (27,000 square miles) and extends south from the Modoc Plateau and Cascade Range at the Oregon border to the Sacramento-San Joaquin Delta. In addition to Butte County, the region includes all or large portions of Modoc, Siskiyou, Lassen, Shasta, Tehama, Glenn, Plumas, Colusa, Sutter, Yuba, Sierra, Nevada, Placer, Sacramento, El Dorado, Yolo, Solano, Lake, and Napa Counties. The region includes the Sacramento River, the longest river system in California, and its major tributaries the Pit, Feather, Yuba, Bear, and American Rivers.

The Sacramento River Hydrologic Region includes the entire California drainage area of the Sacramento River and its tributaries. The region extends from Chipps Island in Solano County north to Goose Lake in Modoc County. It is bounded by the Sierra Nevada on the east, Coast Ranges on the west, the Cascade and Trinity Mountains on the north, and the Sacramento-San Joaquin River Delta on the south. The Sacramento River Basin begins in Oregon, north of Goose Lake, a near-sink that intercepts the Pit River drainage at the California-Oregon border.

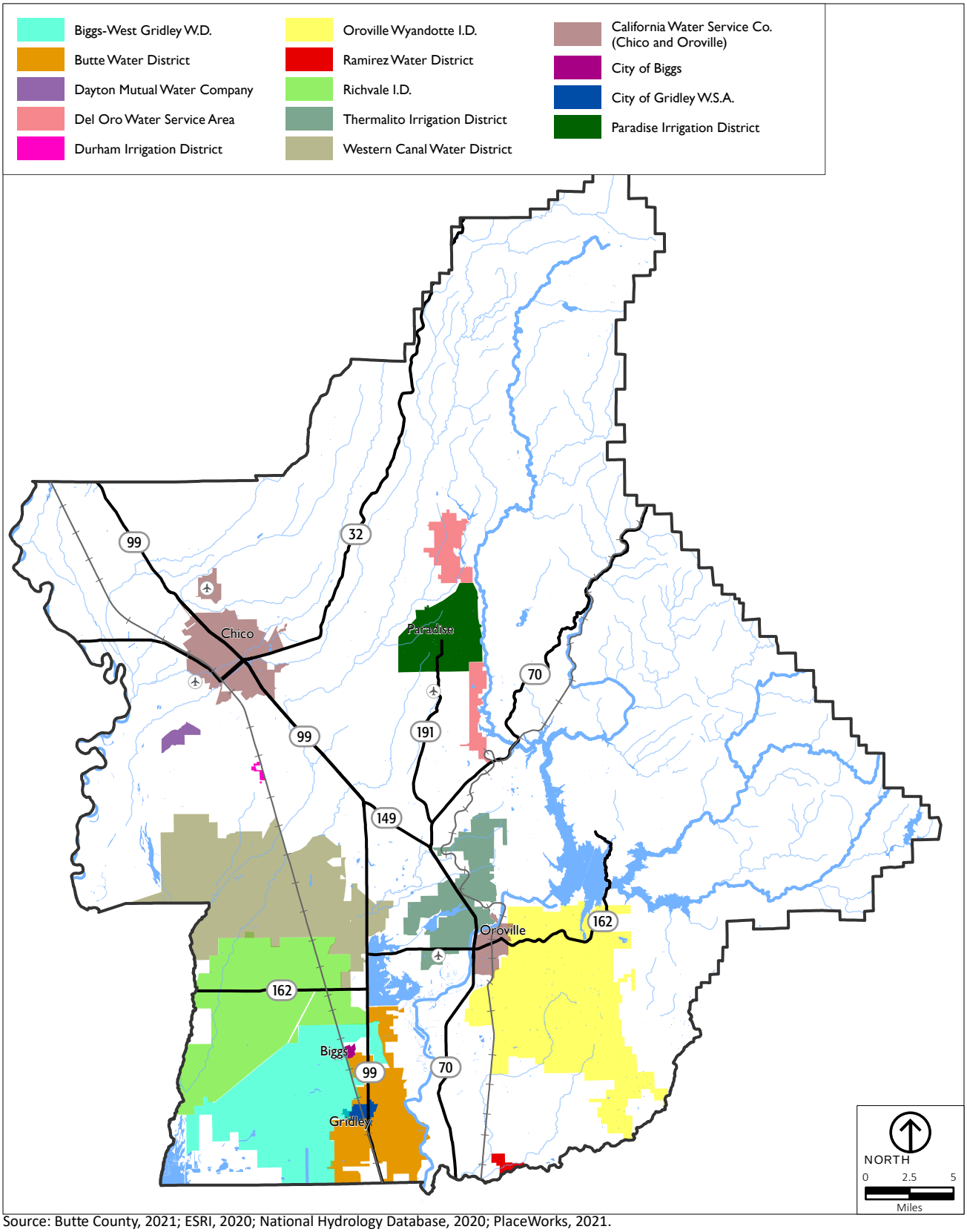
The Sacramento River Hydrological Region is the main water supply for much of California's urban and agricultural areas. Annual runoff in the region averages about 22.4 million acre-feet (MAF), which is nearly one-third of the State's total natural runoff. Major water supplies in the region are provided through surface storage reservoirs. The two largest surface water projects in the region are the U.S. Bureau of Reclamation's Shasta Lake/Dam (Central Valley Project) on the upper Sacramento River in Shasta County and Lake Oroville (California Department of Water Resources' State Water Project) on the Feather River in Butte County. Municipal, industrial, and agricultural supplies to the region are about 8.0 MAF, with groundwater providing about 2.5 MAF of that total. Much of the remainder of the total runoff goes to dedicated natural flows that support various environmental requirements, including in-stream fishery flows and flushing flows in the Delta.

Water Service Providers

Adequate domestic water service for the county's urban population is crucial for public health, community sanitation, and fire protection. Water rights and resources are often the focus of public water policy, but water delivery systems and purveyors are important in achieving water resources objectives. Improvement, coordination, and expansion of water treatment and conveyance systems represent an opportunity to implement water resource conservation and other County water policies.

Local water companies and water districts manage domestic water supply in the county. This water supply includes water for drinking, residential, and commercial uses. A significant portion of domestic water is obtained through private residential wells. Mutual water companies are private corporations that perform water supply and distribution functions similar to public water districts, such as Cal Water Service. Investor-owned utilities may also be involved in water supply activities, sometimes as an adjunct of hydroelectric power development. Irrigation districts are designed to ensure delivery of sufficient water supplies for agricultural uses, though they may serve some residential and commercial uses.

Figure 5.17-1, *Water Providers and Service Area Boundaries*, maps the service area boundaries of the various public water systems and irrigation districts in Butte County, which include municipal water companies, mutual water companies, investor-owned utilities, and irrigation districts. Table 5.17-1, *Water Supplier Overview*, summarizes each of these entities by their primary water supply source, primary end users, total deliveries, and numbers of users.



Source: Butte County, 2021; ESRI, 2020; National Hydrology Database, 2020; PlaceWorks, 2021.

Figure 5.17-1
Water Providers and Service Area Boundaries

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TABLE 5.17-1 WATER SUPPLIER OVERVIEW

Water Supplier	Water Type		Water Uses			Annual Delivery (TAF)	Storage Available (millions of gallons)	Population Served
	Surface Water	Ground-water	Agricultural	Municipal and Industrial	Environ-mental			
Cal Water-Chico		✓		✓		25.9	5.2	102,155
Cal Water-Oroville	✓	✓	✓	✓		4.85	7.209	10,400
City of Biggs		✓		✓		212	0.04	1,800
City of Gridley		✓		✓		497	0	6,561
Del Oro Water Company	✓	✓		✓		1.64	1.5	10,153
Durham Irrigation		✓		✓		0.345	0	1,300
South Feather Water & Power Agency	✓		✓	✓		172	48,164	17,000
Paradise Irrigation District	✓	✓	✓	✓		8,200	4,163	4,485
Thermalito Water and Sewer District	✓	✓		✓		11.2	2,025	11,000
Agricultural	✓							
Biggs-West Gridley Water District	✓		✓		✓	161	0	~
Butte Water	✓		✓		✓	133	0	~
Dayton Mutual Water Company	✓		✓					
Durham Mutual Water Company*	✓		✓					~
Richvale Irrigation District	✓		✓		✓	168.15	0	~
Western Canal Water District	✓		✓		✓	313.4		~

Source: Butte County 2021a, Table 12-6.
Note: TAF = thousand acre-feet
* Durham Mutual Water Company did not participate in the interviews or surveys.

California Water Service Company, Chico

California Water Service Company, Chico (Cal Water Chico) is a private company that has been serving the water supply needs of the greater Chico area since 1926, when it purchased three smaller districts in the area. The greater Chico area includes some areas of Butte County as well as the City of Chico. Although there are approximately 102,155 people in the service area, Cal Water Chico does not provide water to the entire population because some are served by private wells. Supplied water is used solely for urban purposes.

Cal Water Chico pumps groundwater at 68 active wells. The Cal Water system also includes nine storage tanks with a combined capacity of approximately 5.2 million gallons of water. The company supplied an average of 24.4 thousand acre-feet (TAF) a year during 2011 through 2015. In 2015, Cal Water Chico

supplied 18.2 TAF due to conservation efforts driven by State-mandated drought regulations and are to be continued and bolstered by the 2020 Urban Water Management Plan.

Cal Water Chico does not foresee any supply problems within its service area. Its management believes that the water supply is adequate for future growth. The company plans to drill additional wells and pump more water to fulfill higher future demands but is also actively investigating surface water opportunities and recycled water opportunities in the Chico area.

California Water Service Company, Oroville

California Water Service Company, Oroville (Cal Water-Oroville) is a private water supplier that purchased a local water district in Oroville in 1927. Cal Water-Oroville provides water within the Oroville city limits, except in areas served by other Oroville water suppliers (Thermalito Water and Sewer District and South Feather Water and Power Agency). The population within the service area is approximately 10,400. Almost all the water that Cal Water-Oroville provides is dedicated to urban use (residential, industrial, and commercial). The company does provide agricultural water to farmers along the delivery canal. However, during a drought the agricultural users are the first to be cut back.

The average water quantity supplied by the company is 4.85 TAF/year. The peak daily use is approximately 6.3 million gallons per day (MGD). The average daily use during high demand is 6.5 MGD. Cal Water-Oroville has two reservoirs and two storage tanks, providing a total of 7.209 million gallons of storage. Conveyance losses are difficult to determine with any certainty because routine operations spill water from the system into the Feather River. Losses in the distribution system are a minor concern.

City of Biggs

The City of Biggs operates a public freshwater system providing clean water to residents and businesses for drinking, households, and irrigation. Three groundwater wells are operated by certified operators in the City's Public Works Department. Each well is closely monitored and controlled by high-tech, state-of-the-art control systems. Water is delivered through the city through a subterranean network of interconnected pipes, over half of which were upgraded and replaced in 2007. Certified operators maintain the system daily and take weekly samples to testing labs. Very little treatment is required for Biggs' water, as the local groundwater sources are excellent in quantity and quality. The City consistently serves high-quality water to its residents and provides an annual water quality assessment report. The City recently completed a major water system upgrade, including replacement of approximately 30,000 linear feet of waterline mains; complete refurbishment of two wells; abandonment of the old elevated water tank; and installation of automated telemetry controls, automated emergency generator back-up, a 10,000-gallon hydropneumatic tank, new fire hydrants, and water meters. This project helped the operations costs of the Public Works Department by reducing maintenance caused by leaks in the old system. Additionally, the new upgrade improved service reliability and boosted water pressures citywide from the former 38 pounds per square inch (psi) to approximately 55 psi. The fire department has significantly greater ability to extract water from the system to fight fires. The city has a current adopted Water Master Plan (Biggs 2019).

City of Gridley

The City of Gridley operates its own domestic water service and fire protection, serving approximately 2,027 municipal, commercial, and residential connections for a population of 6,561 people. Most connections are to residential users, and water is supplied from a series of six wells, which are capable of pumping approximately 6,280 gallons per minute (gpm). The city delivered 527.39 million gallons (MG) of water in 2004, with metered water deliveries totaling 485.81 MG. The maximum day demand peaked at about 2,500 gpm. The City does not operate any storage facilities, instead drawing from additional wells as daily demand changes. According to Butte County LAFCO's assessment of the city water supply for the 2006 Municipal Service review, it is an industry standard that a delivery system without storage should be capable of providing approximately 2.5 times its maximum day demand. Gridley's water system currently meets this standard (Butte LAFCO 2006). Although the City plans to drill additional wells to meet additional future demand, provision of storage facilities would offset some of this future need.

The quality of the City's drinking water supply is of some concern. Chlorination is applied at all wells to disinfect water prior to delivery. However, new standards were established for arsenic in January 2006, and it is believed that many, if not all of the City's wells will be over the maximum allowed level for that contaminant, and so additional treatment may be required (Butte LAFCO 2006).

Del Oro Water Company

Del Oro Water Company serves multiple unincorporated urban areas around the Town of Paradise, Stirling City, Magalia, and the Upper Stilson Canyon area northeast of Chico. Del Oro has five separate service areas: Buzztail, Lime Saddle, Magalia, Paradise Pines, and Stirling Bluffs. The service areas are separated geographically and by the sources of water they utilize.

The Buzztail District was acquired by Del Oro from Buzztail Community Services District at the end of 2015. Buzztail is 0.27 square miles with 35 metered service connections and is served by one groundwater well. The well was not metered prior to 2016, so production data is not available; however, 4.58 acre-feet were delivered to customers in 2015.

The Lime Saddle District is approximately 4.64 square miles, with 392 metered service connections (primarily residential). All connections are metered, and water losses are not found to be significant. Lime Saddle has two groundwater wells and also has a contract with Butte County for 300 acre-feet of surface water from Lake Oroville. Since the completion of the Regional Intertie Project in 2012, Lime Saddle is able to draw, treat, and distribute sufficient water from Lake Oroville to serve the entire district. In 2015, Lime Saddle treated 128 acre-feet of water from Lake Oroville. In addition, Lime Saddle's two groundwater wells produced 66.51 acre-feet in 2015.

The Magalia District is 0.74 square miles with 280 metered service connections, which are primarily residential. Magalia has two groundwater wells, which produced 37.69 acre-feet in 2015. In addition to local groundwater wells, Magalia receives surface water from the Stirling Bluffs District. All connections are metered.

The Paradise Pines District is 7.17 square miles, primarily utilizes groundwater, and has 4,808 metered service connections. In addition to local groundwater wells, Paradise Pines receives surface water from the Stirling Bluffs District. The primary water service is for single-family residential. Paradise Pines has four active groundwater wells, which produced 741 acre-feet in 2015. All connections are metered.

The Stirling Bluffs District is approximately 1.35 square miles with 164 metered service connections. Water use in the area is primarily residential. Stirling Bluffs has a contract to receive up to 365 acre-feet per year of water from Pacific Gas and Electric through the Hendrick Canal. In 2015, they diverted 47.05 acre-feet of this water. All connections are metered.

The remaining water from Stirling Bluffs is available for transfer to Paradise Reservoir, which Paradise Irrigation District treats and conveys to Paradise Pines or Magalia. In 2015, of the 365 acre-feet Stirling Bluffs was contracted to receive, approximately 327 acre-feet were available to transfer. In 2015, Paradise Pines received 192.50 acre-feet and Magalia received 39.95 acre-feet. This water can also be conveyed to Lime Saddle in an emergency.

Del Oro maintains an agreement with Paradise Irrigation District (PID) for the purposes of procuring additional surface water for Lime Saddle, Magalia, and Paradise Pines when necessary. Del Oro last purchased additional surface water from PID in 2012, with 58.56 acre-feet delivered to Lime Saddle. Since the completion of the Regional Intertie Project described above, Del Oro has not purchased water from PID. Del Oro does not expect to purchase water from PID again, barring an emergency situation.

Durham Irrigation District

The Durham Irrigation District provides domestic water services to approximately 350 parcels in an area south of Chico. Distribution, testing, and maintenance operations are currently contracted out to Cal Water Chico. The district's water comes from three groundwater wells. These have a maximum pumping capacity of approximately 4.176 MGD; in 2004, an estimated 142 MG were delivered, which equals 0.39 MGD (Butte LAFCO 2006). Although water supply has generally been adequate over the years, the water table has been subject to lowering during drought periods. Water in the system currently meets all State and federal drinking water standards, with all water chlorinated before delivery. According to the 2006 Municipal Services Review, the system's piping is old and in need of replacement.

South Feather Water and Power Agency

The South Feather Water and Power Agency district (formerly the Oroville-Wyandotte Irrigation District) encompasses 38,320 acres. It serves a population of 17,000 people, with 6,120 domestic water accounts and 525 irrigation accounts.

Supplied water is used for agricultural, residential, and commercial purposes. South Feather Water and Power Agency has six reservoirs—Forbestown, Little Grass Valley, Lost Creek, Miners Ranch, Ponderosa, and Sly Creek—that provide approximately 172,064 acre-feet of storage (SFWPA 2006). Sly Creek Reservoir is fed partially by Slate Creek, which is part of the Yuba River system. Yuba County Water Authority receives water through the Forbestown Ditch from Sly Creek Reservoir. The remainder of the water is for South Feather Water and Power Agency use. There are three canal systems within the district that provide raw

water to agricultural customers: Forbestown, Bangor, and Palermo. South Feather Water and Power Agency does not use groundwater but some pockets of land in the district have independent private wells.

The agency's primary treatment plant is at the Miners Ranch Reservoir and has the capacity to treat 14.5 MGD.

South Feather Water and Power Agency has both pre-1914 and appropriative water rights totaling 800 TAF, which is more water than is available from within the watershed. The district can take 172,145 acre-feet of water from the South Fork of the Feather River and the Yuba River and store it in its reservoirs. South Feather Water and Power Agency uses 27 TAF of water within their service area. The system is 100 percent metered (or volume-measured for raw water delivery systems, using instruments such as "miner's-inch" boxes).

Losses within the domestic system are believed to be negligible. In 1990, there were up to 160 leaks per month due to the poor condition of the old steel pipeline system, but since completion of the steel pipeline replacement project, the agency experiences an estimated 3 to 5 leaks per month in the urban delivery system. Losses in the agricultural systems are more significant, with 93 percent in the Forbestown Canal, and approximately 30 to 50 percent in the Bangor and Palermo canal systems. South Feather Water and Power Agency has coated the canal areas that have profuse leaks with concrete and fixed sections with major leaks. Consideration has been given to rehabilitating the entire ditch system, but there are approximately 100 miles of canal and rehabilitation would be expensive. The District would consider repairing the leaks if it could sell the water, but the cost of the infrastructure improvements and California Department of Water Resources transfer provisions have thus far made the project financially prohibitive (Colwell 2007).

Paradise Irrigation District

PID's primary source of water supply is surface water from rainfall stored in two reservoirs with a total capacity of 12,293 acre-feet. The water system includes 169 miles of transmission and distribution pipelines and a 22.8 MGD state of the art treatment plant, constructed in 1994.

PID is in the Town of Paradise and serves a population of approximately 4,485, although the population served was much higher prior to the Camp Fire. PID was originally formed in 1916 under the laws of the State Water Code for the purpose of providing agricultural water to approximately 1,000 ridge residents. In 2010, the district used approximately 6,115 acre-feet of water in their service area, including water losses. Treated water in the district is used for both agricultural and domestic purposes, with approximately 3 percent of the district's water used to irrigate orchards in 2010 (PID 2016).

In 1956, PID constructed the Paradise Dam and Reservoir with a storage capacity of 8,350 acre-feet. The dam was raised by 24.5 feet in 1976, which increased the capacity to 11,497 acre-feet. In 1996, seismic concerns in Magalia Reservoir forced PID to keep water levels below the maximum capacity, which reduced the capacity from 2,500 acre-feet to approximately 800 acre-feet (Pacific Municipal Consultants 2007). PID completed construction of a new water treatment plant in 1995 with the capacity to treat 22.8 million gallons of water per day. In 2007, it completed the Magalia Bypass Project, which diverts raw water from Little Butte Creek upstream of Magalia Dam to the water treatment plant. The project provides water supply during any future upgrades to the Magalia Dam, improves water quality, provides water supply security, and reduces power consumption.

Thermalito Water and Sewer District

Thermalito Water and Sewer District was originally organized as an agricultural water supplier in 1922. There are approximately 14,000 acres within the service area, with 4,000 to 5,000 acres being served by Thermalito. There is a population of approximately 11,000 in the district and 2,982 connections. The farmers that originally used the majority of the water in Thermalito farmed olives, figs, cotton, and oranges. Agriculture slowly declined due to a combination of factors, including marginal soil. Thermalito now delivers only potable water to a combination of residential, industrial, and governmental users.

Thermalito obtains its surface water from the Concow Reservoir (also known as Wilenor Reservoir). The water enters the West Branch of the Feather River through Concow Creek, then is released from Oroville Dam and delivered to the district through the Thermalito Power Canal. Thermalito also has five groundwater wells that combine with surface water for a total capacity of 10 MGD (11.2 TAF/yr). However, it is more energy efficient to deliver surface water, so groundwater is used only as a backup. Last year, approximately 1,900 acre-feet of water were supplied within the service area. Thermalito obtained appropriative water rights in 1928 and 1929 to 45 percent of the stored water in Concow Reservoir, which amounts to a total of 7,225 acre-feet. In 1985, a SWRCB decision allowed the district to receive 8,200 acre-feet. Thermalito uses about 2,000 acre-feet of the 8,200 acre-feet water allotment.

The district stores some of its water in a 2.5-million-gallon storage tank in the distribution center, and another 7,225 acre-feet within Concow Reservoir. Losses of water within the district are believed to be insignificant. Thermalito discovered that many of the apparent leaks were caused by old meters, which had slowed down and were under-indicating the water delivered. As the old meters are replaced, calculations indicate that less water is lost throughout the system.

Thermalito also collects sewage within its service area, which is conveyed to a plant run by a joint powers authority that includes Thermalito, the Sewer Commission Oroville Region (SCOR), and the Lake Oroville Area Public Utilities District. Together they send around 4.5 MGD of treated wastewater into the Feather River.

Thermalito has some concerns within its district. It is trying to extend water mains to vacant land to help accelerate development. It has estimated that the water treatment plant will need to be expanded within 8 to 10 years. The current capacity of the treatment plant is 4.5 MGD. The plant's full buildout capacity is 10 MGD. During periods of high turbidity in the raw water, groundwater wells can be used to avoid excessive backwashing of the treatment plant filters. Groundwater wells can also be utilized to supplement plant output during peak consumption (Butte 2016).

Agricultural Water Suppliers

Biggs-West Gridley Water District

Biggs-West Gridley Water District occupies 34,785 acres, of which 31,300 acres are irrigated for agriculture and managed wetland uses. The district also provides water to 8,500 acres of the Gray Lodge Wildlife Area, 2,600 acres of which are within their service area.

Some landowners in the district have backup wells to make up for water lost during droughts or to provide all water during droughts so that the remaining surface water can be marketed. The district itself has no production wells, although it has up to 3,000 acres of "second status" lands that were brought into the district after 1979. During years when the California Department of Water Resources reduces water deliveries, the second-status lands are the first to have their water deliveries reduced.

Biggs-West Gridley is chronically short of water. In years when they are short on what is entitled, they have bought added supply from other districts within the Joint Board. They also have a recapture system that provides approximately 25 TAF and could serve as an additional drought management tool. There are no surface storage facilities within the district.

Biggs-West Gridley has a system of open ditch canals to distribute water throughout the service area, and they estimate that the system loses 1 percent of its volume for every mile of conveyance from seepage, evapotranspiration, and associated losses. The conveyance system in Biggs-West Gridley is currently handling 700 cubic feet per second (cfs) of diversions during the summer, but it was not designed for this flow. In 2014, the U.S. Bureau of Reclamation commenced construction to enlarge Biggs-West Gridley Water District's conveyance system to meet additional flow requirements associated with delivering new water (Central Valley Project Improvement Act water) to the Gray Lodge Wildlife Area. The Bureau of Reclamation's construction is planned over multiple years and will increase the district's capacity to a flow of 850 cfs (Butte 2016a).

Butte Water District

The Butte Water District was established in 1956 and encompasses a total of just over 18,000 acres of agricultural land in unincorporated Butte County, south of the Thermalito Afterbay and west of the Feather River. The district supplies agricultural irrigation water to approximately 3,028 parcels. The district incorporates the Biggs/Gridley "Area of Concern," and development pressure in this area is expected to result in future conversion of some of the agricultural land in the district to residential and commercial uses (Butte LAFCO 2010).

The Butte Water District is a member of the Joint Water District, formed under a joint powers agreement with the Biggs-West Gridley Water District, Richvale Irrigation District, and Sutter Extension Water District. Together, the Joint Water District has an allocation of about 555,000 acre-feet, of which the Butte Water District is allocated 24 percent, or about 133,200 acre-feet. The district uses a maximum of between 70 and 80 percent of its allocation, with peak summer demand of 100,00 acre feet and only 10,000 acre feet during winter months (Butte LAFCO 2010).

Dayton Mutual Water Company

Dayton Mutual Water Company provides surface water to meet the area's agricultural water needs. It has water rights to Butte Creek and the West Branch of the Feather River (diverted through Butte Creek) totaling 19.334 cfs.

Durham Mutual Water Company

Durham Mutual Water Company was formed by area water users and provides surface water for agricultural uses from Butte Creek. Durham Mutual Water Company is part of the Butte Creek adjudication and has first priority rights to 44.7 cfs. The water is diverted at Durham Mutual Dam and is conveyed to customers in the service area.

Richvale Irrigation District

Richvale Irrigation District has a riparian water right on Little Dry Creek for 18,300 acre-feet that can only be used between April and September. It also receives 150 TAF from the Joint Water District (described above) pursuant to pre-1914 water rights. The district encompasses a land area of approximately 33,000 irrigable acres in Butte County. Richvale distributes its water supplies annually during the irrigation season, commencing by charging its water distribution system with surface water supplies from Thermalito Afterbay in April each year, and completing its water distribution by October 31 each year. The district may continue water distribution from November to January for rice straw decomposition, to benefit wildlife habitat in the Butte Basin, and to comply with restrictions on rice straw burning.

Some groundwater pumping occurs within Richvale, which is used primarily as a supplemental source of water during the initial flooding of rice fields. Richvale does not have estimates of the quantity of groundwater pumped.

Western Canal Water District

The district encompasses a land area of approximately 59,000 irrigable acres in both Butte and Glenn Counties, with approximately 30,700 acres in the East Butte Inventory Unit and 14,000 in the West Butte Inventory Unit.

The supply is provided by two outlet structures on the northwest corner of the Thermalito Afterbay. The maximum combined outlet flow is 1,250 cubic feet per second. The pre-1914 surface water rights comprise 150,000 acre-feet of natural flow from the Feather River and 140,000 acre-feet from Lake Almanor. There also exists a water right on Butte Creek for 11,400 acre-feet, which can be diverted only during the period of April 15 through June 15. There are approximately 200 agricultural connections to the district, with the majority being for rice irrigation and some grain, pasture, and orchard. Many landowners in the district have constructed deep wells (at their own expense) to provide a conjunctive-use capability. A number of the farms to the north of the main canal were entirely dependent on groundwater supplies until canals and low-lift pumps were installed (at landowners' expense) to provide surface water supply. Groundwater use within the district boundaries is estimated to be 7,000 acre-feet. The conveyance losses within the district are estimated to be about 5 percent.

5.17.1.2 STANDARDS OF SIGNIFICANCE

The proposed project would have a significant impact on water service if it would:

- Require or result in the relocation or construction of new or expanded water facilities, the construction or relocation of which could cause significant environmental effects.

- Not have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry, and multiple dry years.

5.17.1.3 PROPOSED GENERAL PLAN POLICIES

The following are relevant policies of the Butte County General Plan Update, which may reduce impacts to water supplies a result of implementation of the proposed project.

Water Resources Element

- W-P1.1: County planning and programs shall be integrated with other watershed planning efforts, including best management practices, guidelines, and policies of the Central Valley Regional Water Quality Control Board (CVRWQCB) and local Groundwater Sustainability Plans.
- W-P2.1: The County supports solutions to ensure the sustainability of community water supplies.
- W-P2.2: The County may continue the Six-County Memorandum of Understanding (MOU) with Colusa, Glenn, Tehama, Shasta, and Sutter Counties, continue participation in the local GSAs and Groundwater Advisory Boards, and continue to support the Northern Sacramento Valley and Upper Feather River Integrated Regional Water Management and local Groundwater Sustainability Plans.
- W-P2.3: Water resources shall be planned and managed in a way that relies on sound science, data, and public participation.
- W-P2.4: The County's State Water Project allocation (27,500 acre-feet) should be fully utilized within Butte County when technically and economically feasible to maximize the benefit and value to Butte County by prioritizing use within the county.
- W-P2.5: The expansion of public water systems to areas identified for future development in the General Plan land use map is encouraged
- W-P2.7: The Butte County Water Commission and the Department of Water and Resource Conservation shall continue to be important partners in the water resource planning process.
- W-P2.8: The County supports Area of Origin and County of Origin water rights, the existing water right priority system, and the authority to make water management decisions locally to meet the county's current and future needs, thereby protecting Butte County's communities, economy, and environment.
- W-P2.9: Applicants for new major development projects, as determined by the Department of Development Services, shall demonstrate adequate water supply to meet the needs of the project, including an evaluation of potential cumulative impacts to surrounding groundwater users and the environment in accordance with local Groundwater Sustainability Plans.
- W-P2.10: The use of surface water to support the economic development of agriculture is encouraged.
- W-P2.11: Landscaping projects shall use native plants that will continue to be viable in the area under long-term drought conditions.
- W-P2.12: The County stall ensure that there are adequate water supplies for fire protection services.

- W-P3.1: Groundwater transfers and substitution programs shall be locally regulated to protect the sustainability of the County's economy, communities, and ecosystems.
- W-P3.2: The County shall protect groundwater recharge and groundwater quality when considering new development projects.
- W-P4.1: The County shall work cooperatively with the Groundwater Sustainability Agencies in the three subbasins in Butte County to support implementation of the Sustainable Groundwater Management Act to ensure the County has sustainable water supplies.
- W-P4.2: The County supports working towards Sustainable Groundwater Management Ac implementation to ensure the sustainability of groundwater resources, including groundwater levels, groundwater quality, and avoidance of land subsidence, and supports programs that rely on management at the local level, use sound scientific data, and ensure compliance, where consistent with the County's goals and policies.
- W-P4.3: Public information and involvement should be encouraged in the groundwater sustainability planning, collaboration, and coordination process.
- W-P4.4: The County shall consult applicable Groundwater Sustainability Plans and local groundwater management agencies when making decisions that could impact groundwater resources.
- W-P5.1: Agricultural and urban water use efficiency shall be promoted.
- W-P5.2: The County shall coordinate with local Resource Conservation Districts, the Natural Resource Conservation Service, the Northern Sacramento Valley and Upper Feather River Integrated Water Management groups, Butte County Groundwater Sustainability Agencies, and local special districts to ensure consistent and effective water conservation measures and messaging.
- W-P5.3: The County should work with municipal and industrial water purveyors or users to implement water conservation policies and measures, including recycling and reuse.
- W-P5.4: Opportunities to recover and uses treated wastewater for beneficial purposes shall be promoted and encouraged.
- W-P5.5: The use of captured water and reuse of grey water for non-potable uses shall be encouraged.
- W-P5.6: New development projects shall adopt best management practices for water use efficiency and demonstrate specific water conservation measures.
- W-P5.7: County facilities shall adopt water conservation measures and when appropriate retrofit existing facilities to improve water conservation.
- W-P8.1: The County shall pursue immediate local, state, and federal funding for small community water systems that have been damaged or impacted by climate change.
- W-P8.2: The County shall coordinate with local water suppliers to provide water to residents impacted by drought through such means as water filling stations, water storage tanks at homes, and coordination with water haulers.

- W-P8.3: The County shall coordinate with the owners of water recreation sites to begin offering alternative forms of recreation that are less dependent on water levels, such as hiking, mountain biking, horseback riding, and picnicking.
- W-P8.4: The County shall support efforts by rice growers and other farmers to adopt drought- and flood-tolerant rice and other crop varieties as they become available and suitable to meet market demand.

Agricultural Resources Element

- AG-P3.1: The County shall use the existing local working group process to cooperate with the Natural Resource Conservation Service to provide support to farmers regarding conserving water, planting drought-tolerant crops and protecting natural resources.
- AG-P6.2: The County shall preserve and protect adequate and affordable agricultural irrigation water supplies for commercial farmers and ranchers.
- AG-P6.3: The County shall work with water agencies and irrigation districts to improve the distribution of water for agricultural uses

Conservation and Open Space Element

- COS-P1.4: New development should provide above-ground and natural stormwater facilities and use building designs and materials that promote groundwater recharge.

5.17.1.4 IMPACT DISCUSSION

This section analyzes the proposed project's potential impacts to water supply and distribution facilities.

UTIL-1	The proposed project would not require or result in the construction of new water facilities or expansion of existing facilities, the construction of which would cause significant environmental effects.

General Plan 2040

General Plan 2040 proposes the redesignation and rezoning of 28 parcels in the Upper Ridge area as part of the Upper Ridge Community Plan (URCP). This action will lead to a potential increase of 1,915 residents in this area who would be served Del Oro Water Company, which owns and operates two water systems that are largely within the URCP area (Butte 2022). Domestic water service for properties not within the Del Oro Water Company's service areas is provided by private wells (Butte 2022). The area's water supplier may also undertake water facility improvements to extend water distribution lines, increase system reliability, replace existing facilities or potentially to comply with changes in water system requirements. The water supply needs of the potential development in the URCP area are discussed in detail below.

The proposed General Plan 2040 Water Resources Element includes the following policies and actions that either directly address the mitigation of potential environmental impacts of new and expanded water facilities, or would facilitate the timely identification, review, and avoidance of potential adverse impacts.

To minimize the potential for detrimental effects to the environment as a result of new water infrastructure to accommodate growth allowed by General Plan 2040, Policy W-P2.9 requires applicants for new major development projects, as determined by the Department of Development Services, to demonstrate adequate water supply to meet the needs of the project, including an evaluation of potential cumulative impacts to surrounding groundwater users and the environment in accordance with local Groundwater Sustainability Plans, and Policy W-P1.1 requires County planning and programs to be integrated with other watershed planning efforts, including best management practices, guidelines, and policies of the Central Valley RWQCB and local groundwater sustainability plans. Policy W-P2.1 also requires the County to support solutions to ensure the sustainability of community water supplies.

The policies and actions listed above would help to minimize significant environmental effects resulting from the construction of new water facilities or expansion of existing facilities. In addition, these policies and actions would ensure that the appropriate planning occurs prior to development in order to limit the potential for subsidence and to limit development in established groundwater recharge zones. As specific projects, including water system improvements, are identified, additional project-specific environmental analysis would be completed pursuant to CEQA. Consequently, implementation of General Plan 2040 would have a less than significant impact on the environment resulting from the construction of water infrastructure.

Level of Significance Before Mitigation: UTIL-1 would be less than significant.

Mitigation Measures

No mitigation measures are required.

Upper Ridge Community Plan

As discussed in Chapter 3, *Project Description*, the Upper Ridge Community Plan would increase development potential in the Upper Ridge community with 28 parcels redesignated from Retail and Office to Mixed-use land uses in the Old Magalia and Magalia Center neighborhoods. Potential future development under the proposed project would add a maximum of 1,915 additional residents to the Upper Ridge community.

Del Oro Water Company owns and operates two water systems that are largely within the plan area: the Paradise Pines and Magalia Water Districts. Water service in the remainder of the plan area is provided by private wells permitted by Butte County. The Camp Fire burned through the plan area in November 2018. Both the Paradise Pines and Magalia Water Districts were impacted: the two systems combined had approximately 5,100 services prior to the fire, and about 3,200 of those were in service as of December 2020 (Butte 2022).

The short-term water service issues on the Upper Ridge include replacing water supply pipes and accommodating new development. For property owners that are rebuilding, any reactivation of a service after the Camp Fire requires benzene testing of that service. As of December 2020, four services between the two water districts on the Upper Ridge needed replacing because of concerns of benzene leaching from fire-damaged plastic water supply pipes into the delivered water. Property owners rebuilding property are required to test for water contamination. Where contamination is found, Del Oro Water Company will

continue to test and replace the service line if necessary. If contamination is found in the service line from the meter to the structure served, it is the responsibility of the property owner (Butte 2022).

The anticipated additional domestic water demand for the fully built-out Magalia Center concept was approximated to be 128 gpm at peak-hour demand (Butte 2022). Del Oro Water Company staff indicated that, given the ample water supply, pressure, and size of existing water service pipe in Lakeridge Circle, there will likely be no problem providing service of approximately 128 gpm to the proposed development. In addition, there are 10 fire hydrants spaced at regular intervals along the Lakeridge Circle loop. Del Oro Water Company estimates that fire flows available at the hydrants are 1,000 gpm or more, although determining actual fire flows available at these hydrants would require performing fire flow tests. While actual fire flow requirements will be determined by CAL FIRE, staff indicated that this amount of flow would likely be acceptable (Butte 2022). As a result impacts would be less than significant.

Level of Significance Before Mitigation: UTIL-1 would be less than significant.

Mitigation Measures

No mitigation measures are required.

UTIL-2	The proposed project would have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry, and multiple dry years.

General Plan 2040

General Plan 2040 proposes changes to the designations and zones of 28 parcels in the URCP area, which are discussed in greater detail below. This action would introduce a maximum of residents to the plan area, which would increase demand on water supplies.

The proposed General Plan 2040 Water Resources Element includes the following policies that address the need for comprehensive planning and management of water supplies in the county to meet water demands of future growth:

- **W-P1.1:** County planning and programs shall be integrated with other watershed planning efforts, including best management practices, guidelines, and policies of the Central Valley Regional Water Quality Control Board (CVRWQCB) and local Groundwater Sustainability Plans.
- **W-P2.1:** The County supports solutions to ensure the sustainability of community water supplies.
- **W-P2.2:** The County may continue the Six-County Memorandum of Understanding (MOU) with Colusa, Glenn, Tehama, Shasta, and Sutter Counties, continue participation in the local GSAs and Groundwater Advisory Boards, and continue to support the Northern Sacramento Valley and Upper Feather River Integrated Regional Water Management and local Groundwater Sustainability Plans.
- **W-P2.3:** Water resources shall be planned and managed in a way that relies on sound science, data, and public participation.

- W-P2.4: The County's State Water Project allocation (27,500 acre-feet) should be fully utilized within Butte County when technically and economically feasible to maximize the benefit and value to Butte County by prioritizing use within the county.
- W-P2.5: The expansion of public water systems to areas identified for future development in the General Plan land use map is encouraged
- W-P2.7: The Butte County Water Commission and the Department of Water and Resource Conservation shall continue to be important partners in the water resource planning process.
- W-P2.8: The County supports Area of Origin and County of Origin water rights, the existing water right priority system, and the authority to make water management decisions locally to meet the county's current and future needs, thereby protecting Butte County's communities, economy, and environment.
- W-P2.9: Applicants for new major development projects, as determined by the Department of Development Services, shall demonstrate adequate water supply to meet the needs of the project, including an evaluation of potential cumulative impacts to surrounding groundwater users and the environment in accordance with local Groundwater Sustainability Plans.
- W-P2.10: The use of surface water to support the economic development of agriculture is encouraged.
- W-P2.11: Landscaping projects shall use native plants that will continue to be viable in the area under long-term drought conditions.
- W-P2.12: The County stall ensure that there are adequate water supplies for fire protection services.
- W-P3.1: Groundwater transfers and substitution programs shall be locally regulated to protect the sustainability of the County's economy, communities, and ecosystems.
- W-P3.2: The County shall protect groundwater recharge and groundwater quality when considering new development projects.
- W-P4.1: The County shall work cooperatively with the Groundwater Sustainability Agencies in the three subbasins in Butte County to support implementation of the Sustainable Groundwater Management Act to ensure the County has sustainable water supplies.
- W-P4.2: The County supports working towards Sustainable Groundwater Management Ac implementation to ensure the sustainability of groundwater resources, including groundwater levels, groundwater quality, and avoidance of land subsidence, and supports programs that rely on management at the local level, use sound scientific data, and ensure compliance, where consistent with the County's goals and policies.
- W-P4.3: Public information and involvement should be encouraged in the groundwater sustainability planning, collaboration, and coordination process.
- W-P4.4: The County shall consult applicable Groundwater Sustainability Plans and local groundwater management agencies when making decisions that could impact groundwater resources.

- W-P5.1: Agricultural and urban water use efficiency shall be promoted.
- W-P5.2: The County shall coordinate with local Resource Conservation Districts, the Natural Resource Conservation Service, the Northern Sacramento Valley and Upper Feather River Integrated Water Management groups, Butte County Groundwater Sustainability Agencies, and local special districts to ensure consistent and effective water conservation measures and messaging.
- W-P5.3: The County should work with municipal and industrial water purveyors or users to implement water conservation policies and measures, including recycling and reuse.
- W-P5.4: Opportunities to recover and uses treated wastewater for beneficial purposes shall be promoted and encouraged.
- W-P5.5: The use of captured water and reuse of grey water for non-potable uses shall be encouraged.
- W-P5.6: New development projects shall adopt best management practices for water use efficiency and demonstrate specific water conservation measures.
- W-P5.7: County facilities shall adopt water conservation measures and when appropriate retrofit existing facilities to improve water conservation.
- W-P8.1: The County shall pursue immediate local, state, and federal funding for small community water systems that have been damaged or impacted by climate change.
- W-P8.2: The County shall coordinate with local water suppliers to provide water to residents impacted by drought through such means as water filling stations, water storage tanks at homes, and coordination with water haulers.
- W-P8.3: The County shall coordinate with the owners of water recreation sites to begin offering alternative forms of recreation that are less dependent on water levels, such as hiking, mountain biking, horseback riding, and picnicking.
- W-P8.4: The County shall support efforts by rice growers and other farmers to adopt drought- and flood-tolerant rice and other crop varieties as they become available and suitable to meet market demand.

Furthermore, Section 24-112 of the County Code establishes landscaping requirements that promote water conservation, which will minimize impacts on water supplies.

The goals, policies, and actions listed above will help to preserve and extend the availability of water resources in the county for the benefit of current and future uses and will help to minimize the amount of new water capacity development that may be needed to meet future 2040 growth. In addition, these goals, policies, and actions would ensure the appropriate planning and timely implementation of new and expanded water supply capacity to serve future anticipated growth in the county as it occurs. Therefore, implementation of General Plan 2040 would have a less than significant impact on water supply.

Level of significance Before Mitigation: UTIL-2 would be less than significant.

Mitigation Measures

No mitigation measures are required.

Upper Ridge Community Plan

As discussed in Chapter 3, *Project Description*, the URCP would increase development potential in the Upper Ridge community with 28 parcels redesignated from Retail and Office to Mixed-use land uses in the Old Magalia and Magalia Center neighborhoods. Potential future development under the proposed project would add a maximum of 1,915 additional residents to the Upper Ridge community.

Extremely low precipitation levels are expected to occur more frequently, causing more droughts that are more intense and last longer compared to historical norms. Base flows in creeks on the Upper Ridge are expected to decline from a historical annual average of 18 inches to an annual average of 12.1 inches in an early-century (2023 to 2043) extended drought scenario and decline to an annual average of 11.2 inches in a late-century (2051 to 2070) extended drought scenario (Butte 2022). The Upper Ridge community currently obtains water from the Del Oro Water Company, surface water supplies from Butte Creek, and groundwater from private wells that tap into the underground fresh water from the Butte Creek watershed. The Upper Ridge community could experience water shortages during drought conditions, which may cause the Del Oro Water Company to implement water conservation measures based on its Urban Water Management Plan (Butte 2022). Less precipitation could lower water levels or decrease water quality in streams and lakes, which can affect both natural habitats and potable water supply for residents. The most vulnerable populations to drought are those living outside of the Del Oro Water Company service area, as they rely on private groundwater that extends upward of 1,000 feet below ground surface due to the geologic formation in the area. If the water table is drawn down due to drought conditions, these users may not be able to afford to drill farther down (Butte 2022).

The URCP includes several strategies that aim to prepare and respond to drought conditions by promoting water conservation, finding alternative water supplies, providing alternative recreation opportunities that are less reliant on water, and educating residents and visitors about adapting to drought conditions. These include Strategy HS-1.1 which directs the County to develop alternative water supplies to support the Upper Ridge during drought condition, increase the use of rainwater catchment and retention systems as a source of landscaping irrigation and outdoor water use, and incentivize the installation of greywater systems in existing and new development through grants or other funding mechanisms. Strategy HS-1.2 encourages alternative forms of recreation on the Upper Ridge that are less dependent on water levels of Paradise Lake and Magalia Reservoir, such as hiking, horseback riding, and mountain biking. Strategy HS-1.3 directs the County to work with Del Oro Water company to develop a water conservation education program for community residents and visitors.

Adherence to the General Plan 2040 policies listed above in addition to implementation of the strategies in the Upper Ridge Community Plan would reduce impacts to water supplies. Furthermore, future projects will be evaluated under CEQA for their impacts on water supply. Impacts would be less than significant.

Level of significance Before Mitigation: UTIL-2 would be less than significant.

Mitigation Measures

No mitigation measures are required.

5.17.1.5 CUMULATIVE IMPACTS

UTIL-3	The proposed project, in combination with past, present, and reasonably foreseeable projects, would result in less-than-significant cumulative impacts with respect to water service.

There is a possibility that growth in other areas within the region could impact regional water supplies. The regional water supplies at risk would be the large supply of groundwater located within the permeable soils of the Sacramento Valley floor. If new development were to penetrate that supply, a water shortage could potentially develop. However, the Integrated Water Resource Plan revised in 2008 indicates that currently, there is no water supply shortfall during normal years, but that shortages occur during dry conditions in specific areas. Drought period shortages are concentrated in the southwestern portion of the county, where supply is limited by groundwater fluctuations during drier summer months, heavier agricultural use, and the geology of the aquifer. The General Plan 2040 Water Resources Element addresses cooperation with regional water users to protect Butte County's water resources. General Plan Policy W-P2.2 directs the County to continue the Six-County Memorandum of Understanding with Colusa, Glenn, Tehama, Shasta, and Sutter Counties; continue participation in the local Groundwater Sustainable Agencies and Groundwater Advisory Boards, and continue to support the Northern Sacramento Valley and Upper Feather River Integrated Regional Water Management and local Groundwater Sustainability Plans. Therefore, implementation of General Plan 2040 would result in a less than significant cumulative impact to water supplies.

Level of significance Without Mitigation: UTIL-3 would be less than significant.

Mitigation Measures

No mitigation measures are required.

5.17.2 WASTEWATER

5.17.2.1 ENVIRONMENTAL SETTING

This section summarizes existing federal, State, and local agencies, policies and regulations that apply to wastewater services analyzed in this section.

Regulatory Setting

Regulatory Agencies

In California, all wastewater treatment and disposal systems fall under the overall regulatory authority of the SWRCB and the nine California 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. Butte 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 Plans, generally in the form of objectives, 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 RWQCB has direct oversight and permitting responsibility for large-flow systems of greater than 10,000 gallons per day (gpd), unless the Board chooses to waive that authority and delegate their oversight to the Butte County Department of Public Health, Environmental Health Division on a case-by-case basis. Some community systems in Butte County fall within County Service Areas (CSAs), which have assumed responsibility for oversight and/or maintenance of the infrastructure. In these cases, the CSA is considered the responsible party (discharger) under terms of the permit issued by the RWQCB. Butte County Public Health, Environmental Health Division maintains oversight of systems of 10,000 gallons per day (gpd) or less. Wastewater system requirements are addressed in Chapter 19 of the Butte County Code. Table 5.17-2 provides a summary matrix of review and oversight authority for RWQCB and the County for new development projects requiring sewage system reviews.

TABLE 5.17-2 RWQCB AND COUNTY REVIEW CRITERIA FOR NEW DEVELOPMENT PROJECTS

Location	Project Type	RWQCB Review
Butte County	Residential (new parcels)	County Review only for installation/construction
	0-2,500 gpd	County Review only for installation/construction
	10,000+ gpd	Approval of RWQCB Staff or Board Required
	Two or more separate parcels residential or commercial that share sewage disposal	County Review only for installation / construction
Chico Urban Area	Residential (new parcels), in Chico Urban Area meeting Prohibition Order Requirements	Project Notification. Soil data and water quality not provided unless requested
Paradise Adjacent High Nitrate Areas	Residential in Chico Urban Area exceeding 360 gpd per gross acre equivalent	Approval of RWQCB Staff or Board Required
Watershed Protection Zones	0-1,000 gal. Commercial	County Review only for installation/ construction
	1,000+ gal. Commercial	Approval of RWQCB Staff or Board Required
Durham (Developed Community Area)	Any development in excess of 1,000 gal./acre/day	Approval of RWQCB Staff or Board Required

Source: Butte 2021b

Note: The above routing is for routine project reviews. Special circumstances may require additional Regional Water Quality Control Board approval.

State Regulations

Statewide General Waste Discharge Requirements

On May 2, 2006, the SWRCB adopted Order #2006-0003-DWQ, the Statewide General Waste Discharge Requirements for Sanitary Sewer Systems (WDR). Under this order, publicly owned sanitary sewer systems that consist of more than one mile of pipes or sewer lines must develop and implement a sanitary sewer management plan. The WDRs are intended to provide a regulatory framework designed to ultimately reduce the number and severity of sanitary sewer overflows from publicly owned sewer systems.

Local Regulations

Butte County requirements governing the design and installation of on-site wastewater treatment systems consist of a combination of ordinances and policy documents that are described in this section.

Butte County General Plan 2030

The following policies are included in the existing General Plan regarding wastewater services. The numbering is from the existing General Plan and therefore may not be consecutive.

Land Use Element

- LU-P9.1: The County shall work with municipalities and service providers to ensure that services are available for new development and consistent with master plans.
- LU-P9.3: The County shall work cooperatively with the Local Agency Formation Commission (LAFCO), municipalities and all irrigation districts if annexation of agricultural areas is proposed for urban development to ensure the integrity of irrigation structures that serve off-site landowners.
- LU-P9.5: New development projects shall provide their own infrastructure or tie in to existing infrastructure as it is built.
- LU-P9.6: Large development projects, as determined by the Department of Development Services that may not be served at adequate levels by existing public services (e.g. staffing, equipment and facilities) shall be subject to additional fiscal review before gaining full entitlements to develop. The applicant shall prepare a fiscal impact analysis that identifies any fiscal mitigation measures needed to ensure that the County will be able to maintain adequate service levels and fiscal sustainability.
- LU-P10.2: New development projects shall pay their fair share of public improvement costs for countywide infrastructure, facilities, and services, and shall fund needed infrastructure and facilities proportionately to the cost of providing infrastructure and services.
- LU-P10.3: Applicants for new development projects that will not be adequately served by existing infrastructure and facilities and/or through the adopted countywide impact fee program shall prepare a public facilities financing plan that identifies the needed public improvements and establishes a plan to pay for and develop the required public improvements.
- LU-A10.2: Continue to set aside a portion of General Fund monies each year in order to fund existing development's share of new public facilities costs that cannot be charged to a development impact fee program, or develop other sources of revenues to generate funds.

- LU-P12.8: Staff shall notify all local public agencies of the Government Code requirements for review of public works projects and solicit their assistance and timely submittal of proposed projects.
- LU-A12.3: It is recommended that Butte County and the Airport Land Use Commission update the Butte County Airport Land Use Compatibility Plan.

Water Resources Element

- Goal W-1 Maintain and enhance water quality.
    - W-P1.1 County planning and programs shall be integrated with other watershed planning efforts, including best management practices, guidelines and policies of the Central Valley Regional Water Quality Control Board (CVRWQCB).
    - W-P1.2 The County shall cooperate with State and local agencies in efforts to identify and eliminate or minimize all sources of existing and potential point and non-point sources of pollution to ground and surface waters, including leaking fuel tanks, discharges from storm drains, auto dismantling, dump sites, sanitary waste systems, parking lots, roadways and logging and mining operations.
    - W-P1.3 Regulations that protect water quality from the impacts from agricultural activities shall be maintained.
    - W-P1.4 Where appropriate, new development shall be Low Impact Development (LID) that minimizes impervious area, minimizes runoff and pollution and incorporates best management practices.
    - W-P1.5 Pest-tolerant landscapes shall be encouraged to minimize the need for pesticides.
    - W-P1.6 Educational programs and outreach shall be continued to promote water quality protection and limit pollution from pesticides and nutrients in urban and domestic settings.
    - W-P1.7 Agriculture, logging, mining, recreational vehicle use and other open space uses shall follow best management practices to minimize erosion and protect water resources.
    - W-P1.8 The County supports conversion from septic systems to public sewer service, where feasible.
    - W-P1.9 The County supports the establishment of a system for proper disposal of expired medications.
- Goal W-2 Ensure an abundant and sustainable water supply to support all uses in Butte County.
    - W-P2.1 The County supports solutions to ensure the sustainability of community water supplies.
    - W-P2.2 The County may continue the Four-County Memorandum of Understanding (MOU) with Colusa, Glenn, Tehama and Sutter Counties, and may support the development of the Northern Sacramento Valley Integrated Regional Water Management Plan.

- W-P2.3 Water resources shall be planned and managed in a way that relies on sound science and public participation.
- W-P2.4 The County's State Water Project allocation should be fully utilized within Butte County.
- W-P2.5 The expansion of public water systems to areas identified for future development on the General Plan land use map is encouraged.
- W-P2.6 The County supports water development projects that are needed to supply local demands.
- W-P2.7 The Butte County Water Commission and the Department of Water and Resource Conservation shall continue to be utilized as important partners in the water resource planning process.
- W-P2.8 The County supports Area of Origin water rights, the existing water right priority system and the authority to make water management decisions locally to meet the county's current and future needs, thereby protecting Butte County's communities, economy and environment.
- W-P2.9 Applicants for new major development projects, as determined by the Department of Development Services, shall demonstrate adequate water supply to meet the needs of the project, including an evaluation of potential cumulative impacts to surrounding groundwater users and the environment.

Conservation and Open Space Element

- Goal COS-3 Promote a sustainable energy supply.
  - COS-P3.1 The expansion and increased efficiency of hydroelectric power plants in the county shall be encouraged, provided that such plants can be expanded and that significant adverse environmental impacts associated with such plants can be successfully mitigated.
  - COS-P3.2 The development of renewable fuel sources in the county shall be encouraged, provided that such fuel sources can be built or expanded and that significant adverse environmental impacts associated with such development can be successfully mitigated.
  - COS-P3.3 Utility lines shall be constructed along existing utility corridors wherever feasible.
  - COS-P3.4 Solar-oriented and renewable design and grid-neutral development shall be encouraged.
  - COS-P3.5 Developers shall give homebuyers the option of having renewable heat and power incorporated into new homes.
  - COS-P3.6 Alternative energy sources such as solar shall continue to be used for County facilities, which set an example for others to follow.

- COS-P3.7 Wind power generation facilities, solar power generation facilities, and other alternative energy facilities shall be encouraged in all General Plan land use designations, consistent with zoning provided that significant adverse environmental impacts associated with such development can be successfully mitigated. All new proposed energy projects shall be compatible with the Military Operations Areas (MOAs) shown on Figure LU-5.

Public Facilities and Services Element

- Goal PUB-12 Manage wastewater treatment facilities at every scale to protect the public health and safety of Butte County residents and the natural environment.
  - PUB-P12.1 Applicants shall be allowed to make case-by-case assessments of septic and other wastewater treatment systems to determine appropriate system designs and densities and shall be allowed to utilize new technologies that are supported by State and County practices.
  - PUB-P12.2 On-site wastewater treatment and disposal systems in the Chico area shall continue to be regulated according to the requirements in the Nitrate Compliance Plan.
  - PUB-P12.3 New community sewerage systems shall be managed by a public County sanitation district or other County-approved methods. Proponents shall demonstrate the financial viability of constructing, operating and maintaining the proposed community sewerage system.
  - PUB-P12.4 New sewer collection and transmission systems shall be designed and constructed to minimize potential inflow and infiltration.
- Goal PUB-13 Plan adequate wastewater infrastructure to serve new development.
  - PUB-P13.1 The County shall encourage all plant operators to begin planning and implementing expansions to the existing Regional Wastewater Treatment Master Plan to meet future demand for wastewater treatment generated by this General Plan at least four years prior to reaching the capacity of existing facilities.
  - PUB-P13.2 New development projects shall demonstrate the availability of a safe, sanitary and environmentally sound wastewater system.
  - PUB-P13.3 For development projects that will rely on on-site wastewater systems, applicants shall provide detailed plans demonstrating that the system will be adequate to serve the project.
  - PUB-P13.4 Installation of sewer lines shall occur concurrently with construction of new roadways to maximize efficiency and minimize disturbance from construction activity.

Community System Regulations

The RWQCB has direct oversight and permitting responsibility for large-flow systems of greater than 10,000 gallons per day (gpd), unless it chooses to waive that authority and delegate oversight to the Butte County Department of Public Health, Environmental Health Division, on a case-by-case basis. Some community systems in Butte County fall within County Service Areas (CSA), which have assumed responsibility for oversight and/or maintenance of the infrastructure. In these cases, the CSA is considered the responsible party (discharger) under terms of the permit issued by the RWQCB.

Butte County Local Agency Management and On-Site Wastewater Management

Last updated in 2016, the Butte County Local Agency Management Program created an On-Site Wastewater Manual (Butte 2016b). The manual implements the requirements of AB 885 and is divided into five main parts addressing the following topics: Process, Materials, System Requirements, Operation-Monitoring-Maintenance, and Environmental Monitoring and Reporting. This On-Site Wastewater Manual is the primary document for Butte County concerning requirements and regulations for onsite wastewater treatment systems.

Butte County Code of Ordinances

The Butte County Code of Ordinances includes the following provisions apply wastewater system services in the County.

- **Chapter 19, On-Site Wastewater Systems.** Butte County regulations for on-site sewage disposal systems are a compendium of several documents and ordinances. The framework for Butte County permitting is contained in Chapter 19 (On-Site Wastewater Systems) of the Butte County Code. Chapter 19 establishes the requirements for sewage disposal within the county, addressing a variety of aspects, such as documentation of unlawful disposal methods, general permit requirements, establishment of temporary conditions, and exceptions. The chapter also specifies septic system setbacks, and provides reference to other regulations in Section 10 of Chapter 19 for subdivision requirements. "Chico Urban Area Nitrate Compliance Plan" guidelines are also mentioned in Section 11 of Chapter 19 in the Butte County Code. Supplementing the Chapter 19 framework is a series of policies, documents, and interoffice memoranda establishing design and construction requirements for septic systems. These requirements include bedroom definition specifications, disposal field sizing, siting and design requirements, septic tank sizing, inspection requirements, and materials requirements.
- **Chapter 19, Section 10, Minimum Requirements for Creation of All New Parcels and for Existing parcels within a Watershed Protection Overlay Zone.** Section 10, which was revised on April 12, 2016, supplements the County regulations in Chapter 19 by establishing requirements for new subdivisions. Section 10 presents these requirements by a matrix relating minimum usable land areas, percolation rates, and soil depth for subdivisions where septic tanks and drain fields are to be used. For a subdivision to be approved, each proposed lot must have a minimum useable wastewater system area. The usable area is defined based on a series of exclusions that consider areas within the lot, such as:
    - Wastewater system setbacks to buildings, as specified in the On-Site Wastewater Manual.

- Wastewater system setbacks to wells, streams, springs, drainage courses, cut or fill banks, lakes or reservoirs, and lot lines adjacent to properties that use wells when a well is not yet installed or unspecified on plan.
- Easements dedicated or reserved for surface or underground improvements unless dedicated or reserved for sewage disposal purposes.
- Easements for access for roadway purposes.
- Areas within 5 feet of existing structures (for new lots without structures, 2,500 square feet is assumed for building size).
- Areas within 5 feet of the property line.
- Paved areas.
- Areas with slopes more than 30 percent.
- Areas where the percolation rate is slower than 120 minutes per inch or faster than 1 minute per inch.
- Vertical separation requirements in Chapter 19-10, subsection B.

In addition to the minimum lot size requirements, sewage disposal areas must be practicable to use as disposal areas, in accordance with standard practices. The minimum parcel size requirements are discussed in further detail and listed in Table 2 of Chapter 19, Section 10, of the Butte County Code.

- Chapter 24, Section 34.1, Butte Creek Canyon Overlay Zone. The Butte Creek Canyon Overlay Zone establishes policies, procedures, and standards for Butte Creek Canyon, a significant scenic and ecological resource for the County. It includes restrictions on land use and development, sewage disposal, and erosion control to protect the water quality and scenic value of Butte Creek Canyon while allowing recreational and residential uses. The regulations establish specific restrictions and procedures and sets forth additional setback restrictions than that of the LAMP Manual Part Three, Chapter 2 (Location and Setbacks).
- Chapter 24, Section 46, Watershed Protection Overlay Zone. The Watershed Protection Overlay Zone, amended as recently as 2021, establishes policies, procedures, and standards for the Paradise Reservoir, Magalia Reservoir, and Firhaven Creek Watersheds, including limitations and restrictions on land use, sewage disposal, and erosion-control measures. The purpose of the overlay zone is to maintain and improve water quality for sensitive water resources within Butte County, including the water supply of the Town of Paradise. The regulations establish specific restrictions and procedures, including the prohibition against the division of lots within the Firhaven Creek Watershed and changes to parcel zoning within the Watershed Protection Overlay Zone. This section of the Butte County Code broadens the effect of Chapter 19, Section 10 (Minimum requirements for creation of all new parcels and for existing parcels within a Watershed Protection Overlay Zone) to also include all development, including multifamily residential, commercial, and industrial regardless of the date the parcel was created.

Nitrate Compliance Plan

In the 1980s, the RWQCB recognized that on-site sewage disposal systems were contributing to elevated nitrate levels in groundwater in the Chico area. In response, the RWQCB initially issued a Prohibition Order requiring all existing septic systems in the Chico urban area to convert to community sewer system. The County, working with the City of Chico and the RWQCB, developed strict standards limiting any new systems, the creation of an on-site district, and a plan to finance the conversion of thousands of existing septic systems to the City sewer system.

The Nitrate Compliance Plan, adopted by the Board of Supervisors on September 25, 2001, supersedes the previous Nitrate Action Plan and enacts strict standards for density requirements for new septic systems. The standards, as established in the Nitrate Compliance Plan, allow for conventional septic systems only in narrowly defined circumstances. The plan calls for the elimination of existing systems in most of the Chico Urban Area and identifies a financing mechanism to do this. The plan also provides for case-by-case evaluation of non-residential septic systems and recognizes that sewer connection may not be practical or feasible in all cases.

The standards established by the Nitrate Compliance Plan allow for the use of conventional systems of standard septic tanks with conventional leach fields. These standards are more restrictive than those imposed for existing parcels in other areas of the county and include specific provisions intended to reduce the overall density of wastewater discharges to mitigate cumulative nitrate-loading impacts.

Upper Ridge Community Plan

The Butte County Board of Supervisors accepted the URCP on March 8, 2022. General Plan 2040 Policy LU-P15.2 states: This General Plan hereby incorporates by reference the policies and actions identified in the Upper Ridge Community Plan for the corresponding planning area. The following strategies are included in the existing URCP regarding wastewater treatment. The numbering is from the plan and therefore may not be consecutive.

- **Strategy UI-2.1:** Consider adjusting setback requirements for septic leach lines from county rights-of-way for existing lots of less than a half acre in Upper Ridge subdivisions.
- **Strategy UI-2.2**: Explore formation of a County Service Area, if supported by subject property owners, to fund operation, maintenance, and life cycle costs of a joint waste treatment system at Lakeridge Circle to accommodate new businesses and multifamily housing.

Existing Conditions

Wastewater service in Butte County is provided by a combination of public sewer systems and individual on-site wastewater treatment and dispersal systems (i.e. septic systems). Public sewer systems fall into two main categories: municipal systems and community systems.

Municipal Wastewater Systems

Municipal wastewater treatment plants are used to serve the sanitary sewer needs of major population areas. Typically, these systems are operated by cities or local sewerage agencies under permits issued by the RWQCB.

Municipal systems are comprised of collection, treatment, and disposal components. Wastewater collection occurs through a network of sewer mains that accept flows from the wastewater customers and is collected and conveyed through pipe infrastructure to the treatment facility. Conveyance is typically by gravity; but pumps and pressurized force mains are required to accommodate low lying properties and low points in the collection system. The treatment systems and facilities used differ based on the level of treatment required to meet discharge requirements along with cost, space available, and estimated flow. System components commonly include primary treatment (screening, grit removal, and primary separation and settling of solids), followed by a secondary treatment process for the reduction of biochemical oxygen demand, total suspended solids, and/or nutrients (nitrogen and phosphorous). Where disinfection of the final effluent is included, chlorine, ozone gas, or ultraviolet light are typically used. Where additional (tertiary) treatment is required to meet discharge or reuse requirements, biological nutrient removal for total nitrogen and phosphorus and filters (sand, disc, cloth, or membrane) are used.

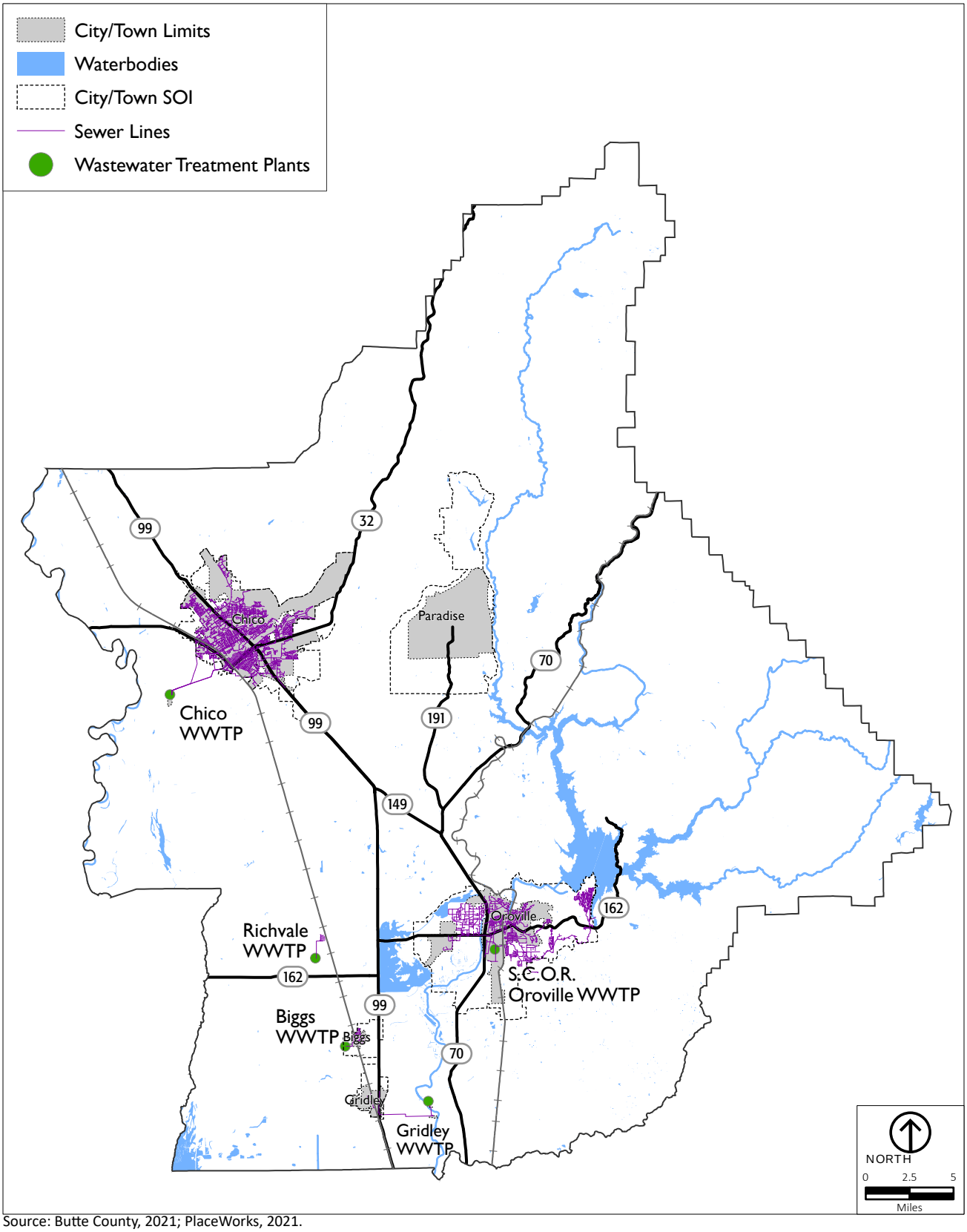
Wastewater effluent disposal for municipal systems is typically by discharge to a water body, land application for agricultural or landscape irrigation, subsurface dispersal (leach fields or subsurface drip systems), or evaporation/percolation from ponds.

There are five active municipal wastewater treatment plants in Butte County in the Biggs, Chico, Gridley, Richvale, and Oroville areas. Information concerning the capacity, treatment, and disposal methods in use at these facilities is summarized in Table 5.17-3, and their locations are shown on Figure 5.17-2. These municipal systems are all owned and operated by governmental agencies (city or special district).

TABLE 5.17-3 MUNICIPAL WASTEWATER TREATMENT SYSTEMS

Community	Treatment Method	Disposal Method	Permitted Capacity (MGD)	Comments
City of Biggs	Aerated Lagoons	Surface Discharge to Drainage Lateral K	0.38	History of problems with disinfection system (chlorine), inflow and infiltration in collection system, and flow measurement.
City of Chico	Activated Sludge	Surface Discharge to the Sacramento River	12.0	Expansion to 15 mgd anticipated in the future.
City of Gridley	Aerated Lagoons	Evaporation/ Percolation Ponds	1.75	
Richvale Sanitary District	Primary Settling	Evaporation Ponds	0.03	History of problems meeting waste discharge requirements.
Sewerage Commission: Oroville Region[1] (City of Oroville, Thermalito Water & Sewer District, Lake Oroville Area PUD)	Activated Sludge & Sand Filters	Surface Discharge to the Feather River	6.5	Industrial pretreatment program approved by RWQCB in 2000; History of inflow and infiltration problems (responsibility of collection system agencies). Design of plant upgrade project underway.

Source: Butte 2021b, Table 6-2.
Note: MGD = million gallons per day
[1] SCOR provides wastewater treatment and disposal for the City of Oroville, Lake Oroville Area PUD, and Thermalito Water and Sewer District (formerly Thermalito Irrigation District) under a joint powers agreement. The three member entities own and operate sewer collection systems in their individual jurisdictions.



Source: Butte County, 2021; PlaceWorks, 2021.

Figure 5.17-2
Municipal Wastewater Treatment Systems

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Community Wastewater Systems

Chapter 19-7 of the Butte County Code states that no On-Site Wastewater System construction permit shall be issued for a Community Wastewater System unless the operation, repair and replacement of said system will be provided by County Service Area as specified in Butte County Board of Supervisors Resolution 13-080.

There are currently six CSAs managing nonmunicipal community sewerage systems in the county. Table 5.17-4 lists various systems currently operated under County sewerage CSAs. All these systems are regulated by the RWQCB except for one. The exception is CSA 135, Zone 4, which serves a small, four-lot subdivision; the system consists of a sand filter and community leach field. The RWQCB did not issue waste discharge requirements for this system; instead, it is regulated by the Butte County Department of Public Health, Environmental Health Division.

TABLE 5.17-4 EXISTING CSA WASTEWATER SYSTEMS

System Name	WDID No.[1]	RWQCB Status[2]	Parcels Served	System Description	County Environmental Health Activities
CSA 21 Zone 1 – Oakridge Sewer – Skansen	5A0401108001	3B	34	Gravity sewer system with freshwater flushing - collector piping to dosing tank to 2 ponds; semi-annual cleanout of ponds	Monthly monitoring and water testing – Conducted by Public Works via Contract with Hydrotech
CSA 21 Zone 2 – Oakridge Sewer – The Bluffs at Spanish Gardens	None	None	23	Septic Tank Effluent Pumps (STEPs) to community leach field	Quarterly monitoring - Conducted by Public Works via Contract with Hydrotech
CSA 21 Zone 3 – Oakridge Sewer – The Bluffs at Spanish Gardens	None	None	3	Individual on-site septic tanks and leach fields	None required
CSA 21 Zone 4 – Oakridge Sewer – Rocky Bluffs	5A0401108001	3B	31	STEPs to dosing siphon to open-bottom sand/gravel filter; redundant system available	Quarterly monitoring with water testing - Conducted by Public Works via Contract with Hydrotech
CSA 82 – Stirling City Sewer	5A040113001	2B	94	Gravity main line to two concrete storage tanks to three ponds; storage tanks constructed in 2002 - replaced redwood storage tank	Quarterly monitoring - Conducted by Public Works via Contract with Hydrotech
CSA 94 – Sycamore Valley Sewer and Lighting	None	None	22	STEPS to community leach field	Quarterly monitoring
CSA 135 Zone 2 – Keefer Creek Estates	5A041041001	3B	21	STEPs to dosing siphon to gravel filter to community leach field; Homeowners Association administers WDRs	None required

System Name	WDID No.[1]	RWQCB Status[2]	Parcels Served	System Description	County Environmental Health Activities
CSA 135 Zone 4 – McWilliams	5A041041001	3B	4	STEPs to open-bottom sand filters in community leach field	Quarterly monitoring
CSA 141 – Mountain Oaks Sewer	5A040121001	2B	55	STEPs to dosing chamber to pond to irrigation system; redundant system available; Homeowners Association administers WDRs	Quarterly monitoring
CSA 169 Zone 1 – Pheasant Landing	5A041045001	3B	17	STEPs to individual sand filters to shallow percolation	Administers WDRs - Conducted by Public Works via Contract with Hydrotech
CSA 169 Zone 2 – Pheasant Landing	None	None	26	STEPs to individual sand filters to shallow percolation; Homeowners Association administers WDRs; County may assume responsibility of regulation oversight and maintenance in the future, but developer continues to operate & maintain system.	Currently only fee collection - Conducted by Public Works via Contract with Hydrotech

Source: Butte 2021b, Table 6-3.

[1] WDID = Stormwater Waste Discharge Identification number

[2] RWQCB status in relation to the WDID.

Community systems are comprised of wastewater treatment components serving multiple units, typically multiple residential units, or mixed-use developments. Community systems are often used for planned developments and community leach field upgrade projects (i.e., replacing a group of failed individual septic systems). Community systems have the advantage of allowing for more flexibility in site planning by condensing the area used for wastewater treatment and disposal. This may leave more land area available for open space or other uses. Additionally, in cases where some lots in a development may have site constraints for wastewater but are otherwise buildable, combining the wastewater system in one portion of a development area that is most amenable to wastewater treatment may allow for the development and the wastewater facilities to be better matched to the physical limitations of the site. By consolidating all or portions of the wastewater system components, there is also the potential for a higher level of treatment, greater reliability, and lower costs for operation and maintenance. However, this is contingent upon reliable operation and maintenance.

On-Site Sewage Disposal Systems

There are an estimated 50,000 on-site sewage disposal systems (i.e., septic systems) in Butte County. Roughly 25 percent of the septic systems are in and fall under the jurisdiction of the Town of Paradise (Hartman 2021). The remaining 75 percent of the systems fall under the County's jurisdiction (McSpadden 2020). Standard septic tank / leach field systems have historically been installed in most of the unincorporated areas of the county with limited oversight from the Butte County Public Health Department, Environmental Health Division and the Central Valley RWQCB.

The Town of Paradise is in the process of designing a sewer collection system that would serve a large portion of the downtown area, decreasing the reliance on individual systems in that area. In 2017, feasibility studies were completed, funded by a grant from the SWRCB. An executive summary of phase 1 of the proposed project was released in November 2020. The proposed project would have a sewage service area that would serve 1,469 of the 11,000 parcels in the town. Sewer collection systems would be installed in the sewer service area, and the wastewater conveyed west to connect to Chico's wastewater collection system.

Alternative systems are not currently covered under Butte County on-site wastewater regulations; however, they have been used selectively in the county. Their use has primarily been approved in response to various pressures, including need to repair aging or failed systems, community projects, and homeowner/developer interest in systems utilizing alternative technology. Some of the applications have had the involvement and oversight of the RWQCB. However, except for community or other systems permitted by the RWQCB, no program or requirements have been implemented for ongoing oversight for operation and maintenance of alternative systems. There are currently fewer than 200 alternative systems in use in the county outside of the jurisdictionally independent area of the Town of Paradise. With the enactment of enhanced nitrate-removal treatment standards for the Chico area, as well as expected elements of the AB 885 state standards process, greater demand for the use of alternative systems can be expected in Butte County in the future.

5.17.2.2 STANDARDS OF SIGNIFICANCE

The proposed project would have a significant impact on wastewater service if it would:

- Require or result in the relocation or construction of new or expanded wastewater treatment facilities, the construction or relocation of which could cause significant environmental effects.
- 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.

5.17.2.3 PROPOSED GENERAL PLAN POLICIES

The following are relevant policies of the Butte County General Plan Update, which may reduce impacts to wastewater services a result of implementation of the proposed project.

Water Resources Element

- W-P1.7: The County supports conversion from septic systems to public sewer service, where feasible.
- W-P1.8: The County supports the establishment of a system for proper disposal of expired medications.
- W-P5.4: Opportunities to recover and uses treated wastewater for beneficial purposes shall be promoted and encouraged.
- W-P5.5: The use of captured water and reuse of grey water for non-potable uses shall be encouraged.

Public Facilities and Services Element

- PUB-P12.1: Applicants shall be allowed to make case-by-case assessments of septic and other wastewater treatment systems to determine appropriate system designs and densities and shall be allowed to utilize new technologies that are supported by State and County practices.
- PUB-P12.2: On-site wastewater treatment and disposal systems in the Chico area shall continue to be regulated according to the requirements in the Nitrate Compliance Plan.
- PUB-P12.3: New community sewerage systems shall be managed by a public County sanitation district or other County-approved methods. Proponents shall demonstrate the financial viability of constructing, operating and maintaining the proposed community sewerage system.
- PUB-P12.4: New sewer collection and transmission systems shall be designed and constructed to minimize potential inflow and infiltration.
- PUB-P13.1: The County shall encourage all plant operators to begin planning and implementing expansions to the existing Regional Wastewater Treatment Master Plan to meet future demand for wastewater treatment generated by this General Plan at least four years prior to reaching the capacity of existing facilities.
- PUB-P13.2: New development projects shall demonstrate the availability of a safe, sanitary and environmentally sound wastewater system.
- PUB-P13.3: For development projects that will rely on on-site wastewater systems, applicants shall provide detailed plans demonstrating that the system will be adequate to serve the project.
- PUB-P13.4: Installation of sewer lines shall occur concurrently with construction of new roadways to maximize efficiency and minimize disturbance from construction activity.

5.17.2.4 IMPACT DISCUSSION

This section analyzes the proposed project's potential impacts to wastewater collection and treatment facilities.

UTIL-4	The proposed project would not require or result in the construction of new wastewater treatment facilities or expansion of existing facilities, the construction of which would cause significant environmental effects.

General Plan 2040

General Plan 2040 proposes the designation and zone changes of 28 parcels in the Upper Ridge community, which are discussed in more detail below. As the proposed project does not include additional land use changes, implementation of General Plan 2040 would not require or result in the construction of new wastewater treatment facilities or expansion of existing facilities. However, as the population of the County continues to grow as described in Table 3-3 of Chapter 3, *Project Description*, the County will ensure that all new development is provided wastewater services and all environmental impacts associated with the expansion or development of wastewater treatment facilities is evaluated.

General Plan 2040 Policy PUB-P13.2 requires that new development demonstrate the availability of a safe, sanitary, and environmentally sound wastewater system. This EIR is a programmatic document and does not evaluate the environmental impacts of any project-specific development. Any new or expanded municipal or community wastewater facilities would be considered a project-specific development and would come under the direct regulatory authority of the RWQCB, require a Report of Waste Discharge to be filed, and require issuance of new or modified WDRs by the RWQCB. The WDR process requires environmental review in accordance with CEQA. In addition, new on-site wastewater facilities would be required to comply with the County regulations, including applicable mitigation measures adopted as a result of the environmental review.

In conjunction with applicable State and County regulatory requirements, new and expanded wastewater facilities required to serve new development would conform to CEQA regulations to ensure that any environmental effects would be less than significant.

Level of Significance Before Mitigation: UTIL-4 would be less than significant.

Mitigation Measures

No mitigation measures are required.

Upper Ridge Community Plan

As discussed in Chapter 3, *Project Description*, the URCP would increase development potential in the Upper Ridge community with 28 parcels redesignated from Retail and Office to Mixed-use land uses in the Old Magalia and Magalia Center neighborhoods. Potential future development under the proposed project would add a maximum of 1,915 additional residents to the Upper Ridge community.

Wastewater service in the URCP area is provided by on-site holding tanks and conventional septic systems. No centralized collection, treatment, and disposal system exists. The Town of Paradise is exploring a centralized system for a portion of the area within the Town's jurisdiction, but connection of a southern portion of the URCP area to the proposed centralized system is not being considered at this time (Butte 2022). This presents constraints to development, both in terms of rebuilding existing properties after the Camp Fire and for building new development. According to the URCP, the two main wastewater issues on the Upper Ridge are bringing septic up to code on residential properties that are rebuilding and providing septic for larger-scale development like that of the Magalia Center development concept.

Permitting and construction of wastewater treatment systems are administered by the Butte County Department of Environmental Health. County staff related that soils in the Upper Ridge area generally are adequate for conventional septic systems. However, lots in the URCP area that are less than a half acre may not be able to meet the setback requirements for a replacement disposal field. Smaller lots outside of Del Oro Water Company service areas are further constrained by setback requirements between water wells and septic systems.

Septic systems require large fields for primary treatment and reserve areas. This requirement makes it difficult to achieve development and treatment on the same site, especially for higher-intensity uses such as multifamily development. URCP Chapter 4, Magalia Center, describes the potential new development

that could occur over the next 10 to 20 years. The URCP proposes a joint wastewater system sized to the Magalia Center concept. Using the concept plan, buildout numbers for gallons per day of wastewater generated were developed for the commercial square footage and residential units projected in the plan. The total flow (existing and proposed) would be approximately 47,290 gpd (Butte 2022). Using an assumption of 0.4 gallons per day per square foot for soil capacity, a septic field of approximately 2.7 acres would be required for treatment (Butte 2021). An equivalent-sized field would be required as a replacement area.

Because of the relatively high densities proposed in the URCP, it also proposes a centralized septic tank effluent pump (STEP) system for wastewater collection, treatment, and disposal for the area. Individual septic tanks would be sited at each connection, with the effluent from the tanks pumped to a centralized underground dispersal area. The exact size and location of the dispersal fields and required area reserved for replacement fields would be determined during the design of an actual project. Projects with wastewater flows over 10,000 gpd are permitted by the Central Valley Water Board (CVWB) under an SWRCB order. A responsible agency will need to be designated to own and operate the wastewater system, which would be a CSA. A CSA is a type of dependent special district governed by the Board of Supervisors. CSAs are established as a mechanism for counties to furnish municipal-type services to unincorporated areas beyond those uniformly provided countywide. Only property owners who benefit from services provided by the CSA pay for the services received. The CSA is formed through a vote of the property owners and a parcel charge is set to cover operational, maintenance, and life cycle costs.

Should a STEP system be constructed for the future development in the URCP area, it would be required to comply with the discharge requirements of the County with oversight by the Butte County Public Health Division and the RWQCB. The proposed General Plan 2040 Public Facilities and Services Element also includes policies that address the need for and the proper planning of wastewater facilities. These include Public Facilities and Services Element Policy PUB-P12.1, which states that applicants shall be allowed to make case-by-case assessments of septic and other wastewater treatment systems to determine appropriate system designs and densities and shall be allowed to utilize new technologies that are supported by State and County practices. Policy PUB-P12.3 requires that new community sewerage systems be managed by a public County sanitation district or other County-approved method. Proponents shall demonstrate the financial viability of constructing, operating and maintaining the proposed community sewerage system. Policy PUB-P13.3 states that for development projects that will rely on on-site wastewater systems, applicants shall provide detailed plans demonstrating that the system will be adequate to serve the project.

In conjunction with applicable State and County regulatory requirements, including those listed in Chapter 19 of the County Code, new and expanded wastewater facilities and systems required to serve new development would conform to CEQA regulations to ensure that any environmental effects would be less than significant.

Level of Significance Before Mitigation: UTIL-4 would be less than significant.

Mitigation Measures

No mitigation measures are required.

UTIL-5	The proposed project would not result in the determination by the wastewater treatment provider that serves or may serve the project that **it does not have adequate capacity to serve the project's projected demand in addition to the provider's existing commitments.**

General Plan 2040

General Plan 2040 would allow development that would require new and/or expanded wastewater treatment and disposal facilities. The additional wastewater treatment capacity may be met by municipal, community, or private on-site wastewater and disposal systems. Planning and construction of new and expanded wastewater facilities to accommodate new development is an on-going process for any area where future growth is anticipated. General Plan 2040 proposes changes to the designations and zones of 28 parcels in the URCP area, which would increase the amount of developable units in the county by 851 units and result in a maximum of 1,915 additional residents. Impacts to wastewater systems in the URCP area are discussed in detail below.

The proposed General Plan 2040 Public Facilities and Services Element includes policies that address the need for and the proper planning of wastewater facilities. Policy PUB-P13.2 requires demonstration of available capacity at a wastewater treatment system that is safe, sanitary, and environmentally sound as a condition of approval for new development. For developments that will rely on on-site wastewater systems, Policy PUB-P13.3 requires applicants to provide detailed plans demonstrating that the system will be adequate to serve the project.

These General Plan 2040 policies would ensure sufficient wastewater treatment capacity is available to serve the project's projected demand in addition to existing demand. Therefore, the impact to wastewater treatment resulting from implementation of General Plan 2040 would be less than significant.

Level of Significance Before Mitigation: UTIL-5 would be less than significant.

Mitigation Measures

No mitigation measures are required.

Upper Ridge Community Plan

As discussed in Chapter 3, *Project Description*, the URCP would increase development potential in the Upper Ridge community with 28 parcels redesignated from Retail and Office to Mixed-use land uses in the Old Magalia and Magalia Center neighborhoods. Potential future development under the proposed project would add a maximum of 1,915 additional residents to the Upper Ridge community.

As discussed in UTIL-4, the URCP evaluated the options available to future development in the plan area. Wastewater service in the URCP area is provided by on-site holding tanks and conventional septic systems, and no centralized collection, treatment, and disposal system exists. Individual lots in the URCP area may be able to install conventional septic systems, but, as the URCP notes, the high density development would

benefit from the construction of a centralized septic tank effluent pump system to accommodate the flow of future development.

The proposed General Plan 2040 Public Facilities and Services Element includes policies that address the need for and the proper planning of wastewater facilities. These include Public Facilities and Services Element Policy PUB-P12.1 which states that applicants shall be allowed to make case-by-case assessments of septic and other wastewater treatment systems to determine appropriate system designs and densities and shall be allowed to utilize new technologies that are supported by State and County practices. Policy PUB-P12.3 requires that new community sewerage systems be managed by a public County sanitation district or other County-approved method. Proponents shall demonstrate the financial viability of constructing, operating, and maintaining the proposed community sewerage system. Policy PUB-P13.3 states that for development projects that will rely on on-site wastewater systems, applicants shall provide detailed plans demonstrating that the system will be adequate to serve the project.

The Upper Ridge community is not served by a wastewater treatment provider, so it would not result in a determination by a wastewater treatment provider that it does not have adequate capacity to serve the project's projected demand. However, development in the URCP area under General Plan 2040 would require the construction of wastewater treatment facilities, which have been discussed in detail in Impact UTIL-4. Impacts would be less than significant.

Level of Significance Before Mitigation: UTIL-5 would be less than significant.

Mitigation Measures

No mitigation measures are required.

5.17.2.5 CUMULATIVE IMPACTS

UTIL-6	The proposed project, in combination with past, present, and reasonably foreseeable projects, would result in less-than-significant cumulative impacts with respect to wastewater service.

Development allowed by General Plan 2040 would generate increased amounts of wastewater in the Upper Ridge Plan Area. As previously discussed, wastewater generated in these areas would be treated by on-site septic systems. On-site septic tanks and community systems are independent, self-contained wastewater treatments systems designed to meet County and RWQCB standards that provide for avoidance of cumulative impacts.

In addition, development in the area surrounding Butte County may require the construction of new or expanded wastewater facilities. As with the project-level analysis, any new or expanded wastewater facilities would be subject to project-specific review under CEQA and the direct regulatory authority of the RWQCB, and would require a Report of Waste Discharge to be filed and issuance of new or modified WDRs by the RWQCB.

The processes and requirements described in this section will ensure that the cumulative impacts related to wastewater would be less than significant.

Level of Significance Before Mitigation: UTIL-6 would be less than significant.

Mitigation Measures

No mitigation measures are required.

5.17.3 SOLID WASTE

5.17.3.1 ENVIRONMENTAL SETTING

This section describes existing regulations and solid waste facilities in Butte County, as well as potential impacts of the proposed General Plan 2040 with regard to solid waste services.

Regulatory Setting

Federal Regulations

Resource Conservation and Recovery Act of 1976

The Resource Conservation and Recovery Act of 1976 (Title 40 of the Code of Federal Regulations), Part 258, contains regulations for municipal solid waste landfills and requires states to implement their own permitting programs incorporating the federal landfill criteria. The federal regulations address the location, operation, design (liners, leachate collection, run-off control, etc.), groundwater monitoring, and closure of landfills.

State Regulations

Sanitary District Act of 1923

The Sanitary District Act of 1923 (California Health and Safety Code, Section 6400 et seq.) authorizes the formation of sanitation districts and enforces the sanitation districts to construct, operate, and maintain facilities for the collection, treatment, and disposal of wastewater. This act was amended in 1949 to allow the sanitation districts to also provide solid waste management and disposal services, including refuse transfer and resource recovery.

California Integrated Waste Management Act

California's Integrated Waste Management Act of 1989 (AB 939) required that cities and counties divert 50 percent of all solid waste from landfills as of January 1, 2000, through source reduction, recycling, and composting. AB 939 also established a goal for all California counties to provide at least 15 years of ongoing landfill capacity. To help achieve this, the act requires that each city and county prepare a Source Reduction and Recycling Element to be submitted to CalRecycle.

In 2007, SB 1016 amended AB 939 to establish a per-capita disposal measurement system. The California Integrated Waste Management Board (now CalRecycle) set a target per-capita disposal rate for each jurisdiction. Each jurisdiction must submit an annual report with an update of its progress in implementing diversion programs and its current per-capita disposal rate.

California Solid Waste Reuse and Recycling Access Act of 1991

The California Solid Waste Reuse and Recycling Access Act required development projects to set aside areas for collecting and loading recyclable materials. This act required CalRecycle to develop a model ordinance for adoption by any local agency that provides adequate areas for the collection and loading of recyclable materials for development projects. Local agencies are required to adopt the model, or an ordinance of their own, that establishes standards, including space allocation for the collection and loading of recyclable materials.

Assembly Bill 341 and Assembly Bill 1826

AB 341 (Chapter 476) increased the statewide solid waste diversion goal to 75 percent by 2020. AB 341, which was passed in 2011 and took effect July 1, 2012, mandates recycling for businesses producing four or more cubic yards of solid waste per week. Under AB 341, qualifying businesses must separate recyclables from trash and then either subscribe to recycling services, haul their own recyclables, or contract with a permitted private recycler. As of January 1, 2019, all businesses that generate four or more cubic yards of commercial solid waste each week must enroll in services to collect organic material separately from other waste. Organic material includes food waste, landscape trimmings, clean wood and lumber, and unlined paper like cardboard and paper towels.

AB 1826, passed in 2014, mandates organic waste recycling for qualifying businesses and multifamily dwellings. The commercial organics recycling law took effect April 1, 2016, and was phased in over subsequent years.

Senate Bill 1383

In September 2016, SB 1383 established methane emissions-reduction targets in a statewide effort to reduce emissions of short-lived climate pollutants in various sectors of California's economy. SB 1383 established goals to reduce the landfill disposal of organics by achieving a 50 percent reduction of the 2014 level of statewide disposal of organic waste by 2020 and a 75-percent reduction by 2025. SB 1383 grants CalRecycle the regulatory authority to achieve the organic waste disposal reduction targets and established an additional target that at least 20 percent of currently disposed edible food be recovered for human consumption by 2025. Methane emissions resulting from the decomposition of organic waste in landfills are a significant source of greenhouse gas emissions contributing to global climate change. Organic materials—including waste that can be readily recycled or composted—account for a significant portion of California's overall waste stream.

Local Regulations

Countywide Integrated Waste Management Plan

The Countywide Integrated Waste Management Plan (CoIWMP) is mandated by State law under AB 939. The purpose of the CoIWMP is to describe local waste diversion and disposal conditions and lay out realistic programs to achieve the waste diversion goals outlined in AB 939. The CoIWMP serves as the primary tool for designing waste reduction programs that are countywide in scope. The Plan also addresses the county's landfill needs in a comprehensive way. In Butte County, waste reduction and disposal facilities that require Solid Waste Facility Permits must conform to the policies contained in the CoIWMP.

Butte County General Plan 2030

The following policies are included in the existing General Plan regarding solid waste services. The numbering is from the existing General Plan and therefore may not be consecutive.

Land Use Element

- LU-P9.1: The County shall work with municipalities and service providers to ensure that services are available for new development and consistent with master plans.
- LU-P9.3: The County shall work cooperatively with the Local Agency Formation Commission (LAFCO), municipalities and all irrigation districts if annexation of agricultural areas is proposed for urban development to ensure the integrity of irrigation structures that serve off-site landowners.
- LU-P9.5: New development projects shall provide their own infrastructure or tie in to existing infrastructure as it is built.
- LU-P9.6: Large development projects, as determined by the Department of Development Services that may not be served at adequate levels by existing public services (e.g. staffing, equipment and facilities) shall be subject to additional fiscal review before gaining full entitlements to develop. The applicant shall prepare a fiscal impact analysis that identifies any fiscal mitigation measures needed to ensure that the County will be able to maintain adequate service levels and fiscal sustainability.
- LU-P10.2: New development projects shall pay their fair share of public improvement costs for countywide infrastructure, facilities, and services, and shall fund needed infrastructure and facilities proportionately to the cost of providing infrastructure and services.
- LU-P10.3: Applicants for new development projects that will not be adequately served by existing infrastructure and facilities and/or through the adopted countywide impact fee program shall prepare a public facilities financing plan that identifies the needed public improvements and establishes a plan to pay for and develop the required public improvements.
- LU-A10.2: Continue to set aside a portion of General Fund monies each year in order to fund existing development's share of new public facilities costs that cannot be charged to a development impact fee program, or develop other sources of revenues to generate funds.
- LU-P12.8: Staff shall notify all local public agencies of the Government Code requirements for review of public works projects and solicit their assistance and timely submittal of proposed projects.

Water Resources Element

- Goal W-1 Maintain and enhance water quality.
    - W-P1.1 County planning and programs shall be integrated with other watershed planning efforts, including best management practices, guidelines and policies of the Central Valley Regional Water Quality Control Board (CVRWQCB).
    - W-P1.2 The County shall cooperate with State and local agencies in efforts to identify and eliminate or minimize all sources of existing and potential point and non-point sources of pollution to ground and surface waters, including leaking fuel tanks, discharges from storm drains, auto dismantling, dump sites, sanitary waste systems, parking lots, roadways and logging and mining operations.
    - W-P1.3 Regulations that protect water quality from the impacts from agricultural activities shall be maintained.
    - W-P1.4 Where appropriate, new development shall be Low Impact Development (LID) that minimizes impervious area, minimizes runoff and pollution and incorporates best management practices.
    - W-P1.5 Pest-tolerant landscapes shall be encouraged to minimize the need for pesticides.
    - W-P1.6 Educational programs and outreach shall be continued to promote water quality protection and limit pollution from pesticides and nutrients in urban and domestic settings.
    - W-P1.7 Agriculture, logging, mining, recreational vehicle use and other open space uses shall follow best management practices to minimize erosion and protect water resources.
    - W-P1.8 The County supports conversion from septic systems to public sewer service, where feasible.
    - W-P1.9 The County supports the establishment of a system for proper disposal of expired medications.
- Goal W-2 Ensure an abundant and sustainable water supply to support all uses in Butte County.
    - W-P2.1 The County supports solutions to ensure the sustainability of community water supplies.
    - W-P2.2 The County may continue the Four-County Memorandum of Understanding (MOU) with Colusa, Glenn, Tehama and Sutter Counties, and may support the development of the Northern Sacramento Valley Integrated Regional Water Management Plan.
    - W-P2.3 Water resources shall be planned and managed in a way that relies on sound science and public participation.
    - W-P2.4 The County's State Water Project allocation should be fully utilized within Butte County.

- W-P2.5 The expansion of public water systems to areas identified for future development on the General Plan land use map is encouraged.
- W-P2.6 The County supports water development projects that are needed to supply local demands.
- W-P2.7 The Butte County Water Commission and the Department of Water and Resource Conservation shall continue to be utilized as important partners in the water resource planning process.
- W-P2.8 The County supports Area of Origin water rights, the existing water right priority system and the authority to make water management decisions locally to meet the county's current and future needs, thereby protecting Butte County's communities, economy and environment.
- W-P2.9 Applicants for new major development projects, as determined by the Department of Development Services, shall demonstrate adequate water supply to meet the needs of the project, including an evaluation of potential cumulative impacts to surrounding groundwater users and the environment.

Conservation and Open Space Element

- Goal COS-3 Promote a sustainable energy supply.
  - COS-P3.1 The expansion and increased efficiency of hydroelectric power plants in the county shall be encouraged, provided that such plants can be expanded and that significant adverse environmental impacts associated with such plants can be successfully mitigated.
  - COS-P3.2 The development of renewable fuel sources in the county shall be encouraged, provided that such fuel sources can be built or expanded and that significant adverse environmental impacts associated with such development can be successfully mitigated.
  - COS-P3.3 Utility lines shall be constructed along existing utility corridors wherever feasible.
  - COS-P3.4 Solar-oriented and renewable design and grid-neutral development shall be encouraged.
  - COS-P3.5 Developers shall give homebuyers the option of having renewable heat and power incorporated into new homes.
  - COS-P3.6 Alternative energy sources such as solar shall continue to be used for County facilities, which set an example for others to follow.
  - COS-P3.7 Wind power generation facilities, solar power generation facilities, and other alternative energy facilities shall be encouraged in all General Plan land use designations, consistent with zoning provided that significant adverse environmental impacts associated with such development can be successfully mitigated. All new proposed energy projects shall be compatible with the Military Operations Areas (MOAs) shown on Figure LU-5.

Public Facilities and Services Element

- Goal PUB-9 Provide safe, sanitary and environmentally acceptable solid waste management.
    - PUB-P9.1 Butte County residents, businesses and industries shall be encouraged to reduce the use of non-biodegradable and nonrecyclable materials, including reduced use of packaging and use of reusable, rather than disposable, products.
    - PUB-P9.2 Technologies that benefit Butte County and that allow the use of solid waste as an alternative energy source, including biomass or biofuels, shall be promoted.
    - PUB-P9.3 Innovative strategies shall be employed to ensure efficient and cost-effective solid waste and other discarded materials collection, disposal, transfer and processing.
    - PUB-P9.4 Waste materials shall be considered as potential revenue sources for the County, and the County shall seek to maximize the revenue potential associated with the waste stream as new products, economies, needs and technologies emerge.
    - PUB-P9.5 The Neal Road Recycling and Waste Facility should prioritize disposal and processing capacity for waste materials generated within Butte County, but accept waste materials from outside the county when capacity is available and the rates cover the full cost of disposal and processing.
- Goal PUB-10 Increase opportunities for safe recycling of electronic waste (e-waste) and hazardous waste by residents and businesses in Butte County.
    - PUB-P10.1 The County supports the continued operation of household and business hazardous material waste drop-off facilities.
    - PUB-P10.2 The County supports the continued operation of the existing public education program on the importance of disposing of household and business wastes at appropriate collection sites.
- Goal PUB-11 Increase recycling among Butte County residents, businesses and public agencies.
    - PUB-P11.1 The County shall meet or exceed State waste diversion requirements.
    - PUB-P11.2 Construction sites shall provide for the salvage, reuse, or recycling of construction and demolition materials.
    - PUB-P11.3 Public buildings shall be designed or improved with on-site storage facilities for recycled materials.
    - PUB-P11.4 The County shall use post-consumer recycled paper and other recycled materials for County operations whenever possible.
    - PUB-P11.5 The County supports private and public composting facilities.

Butte County Code of Ordinances

The Butte County Code of Ordinances includes the following provisions that would help preserve solid waste resources and ensure that solid waste services are provided to all parts of the County.

- **Chapter 43, Section 43-10, Solid Waste Fees.** Public Health Department fees for Solid Waste shall be as adopted by Resolution of the Board of Supervisors as part of the Butte County Master Fee Schedule. These fees are subject to periodic adjustment based on the United States Department of Labor, Bureau of Labor Statistics Employment Cost Index (ECI) for State and Local Government.
- **Chapter 31, Solid Waste Collection, Management, and Recycling Ordinance.** Pursuant to Public Resources Code Sections 40000 et seq., this chapter is adopted to provide for a solid waste and recyclable materials collection system which shall preserve the health and safety and provide for a stable revenue source with which the County of Butte may provide adequate management of solid waste.

Existing Conditions

Existing solid waste management facilities in Butte County consist of three transfer stations, the Neal Road public use landfill (and adjacent septage waste transfer station), two private green/ wood waste recyclers, and an anaerobic digestion operation. The City of Chico operates its own compost site for green waste, which is located near the City airport.

Recycling, composting, and waste combustion programs in Butte County are designed to make other waste management operations more environmentally friendly and economically efficient. The Neal Road Recycling and Waste Facility helps the County meet State-mandated diversions goals while also converting waste to power for approximately 2,200 homes each year (Butte 2020). In 2020, approximately 14,390 (or about 8 percent) of the solid waste accepted at the Neal Road Recycling and Waste Facility was diverted (Cissell 2021).

Waste Stream

Waste stream data for Butte County were collected by the Public Works Department for the year 2020. Table 5.17-5, *Tons of Solid Waste Generated, by Jurisdiction*, shows the waste data broken down by each jurisdiction in Butte County.

TABLE 5.17-5 TONS OF SOLID WASTE GENERATED, BY JURISDICTION

Jurisdiction	2020 Population	Estimated Tons Generated (2020)
Biggs	1,852	434
Chico	110,326	20,101
Gridley	6,402	1,181
Oroville	19,440	5,637
Paradise	4,631	19,305
Unincorp. County	67,640	164,608
Outside of the County	---	2,419
Totals	**210,291**	**213,684**

Source: Butte 2021b.

The Neal Road Recycling and Waste Facility buried approximately 163,200 tons of municipal solid waste in 2020. In addition to that total, 3,247 tons of inert materials, 4,559 tons of wood waste, 5,514 tons of scrap metal, 225 tons of tires, 574 tons of cardboard and mattresses, and 270 tons of electronic waste were diverted from disposal in the landfill (Cissell 2021).

Collection and Transfer

Butte County is served by three licensed private haulers who provide residential, commercial, and industrial collection services for solid waste transported to the Neal Road Recycling and Waste Facility for disposal. In 2014, the County divided the unincorporated area into three collection service areas and issued franchise agreements to three waste and recycling collection companies to service these areas. The three franchised companies provide collection and processing of commercial and residential recyclable material, green waste, and solid waste within the three franchise service areas. Waste Management serves the northwest unincorporated area of the county, Northern Recycling and Waste Services serves the northeast unincorporated area, and Recology serves the central and southern unincorporated area. All commercial waste haulers operating in Butte County are required to obtain a permit issued by the County Public Health Department, Environmental Health Division after meeting requirements set forth in Butte County Code, Chapter 31. The incorporated areas of the county manage their own waste collection services.

Table 5.17-6, *Solid Waste Franchise Private Haulers*, outlines the existing haulers, their service areas, contract status, and recycling efforts.

TABLE 5.17-6 SOLID WASTE FRANCHISE PRIVATE HAULERS

Private Hauler	Service Area	Franchise/ Contract	Recycling Efforts
Recology 2720 South Fifth Avenue Oroville, CA 95965	Southern portion of the unincorporated area in the County	Franchise with County	Curbside recycling, residential and commercial yard trimmings, compost, recycling, and garbage collection
Northern Recycling and Waste Services 920 American Way Paradise, CA 95969	Paradise ridge area	Franchise with County	Curbside recycling, including green waste collection, commercial waste
Waste Management 2569 Scott Ave. Chico, CA 95928	Northwest unincorporated area of the County	Franchise with County	Curbside recycling including residential and commercial yard waste

Source: Butte 2021b.

The three private collection firms operate three transfer stations in Butte County. The Recology Butte Colusa Counties Transfer Station is in Oroville and hosts a public recycling drop-off center, household hazardous waste facility, green waste drop-off center, and a construction and demolition sorting facility. The North Valley Disposal Transfer Station is in Chico and managed by Waste Management. Northern Recycling and Waste Services is in Paradise and provides transfer station services as part of their franchise agreement with the County. The recycling and waste buy-back center at Northern Recycling and Waste Services is currently closed as a result of the recent wildfires and COVID-19.

The Ord Ranch Transfer Station offers waste transfer services to the Biggs and Gridley area. The Ord Ranch Transfer Station is situated on one acre and, as of 2006, was permitted to transfer up to 64 tons per day, operating only on weekends. All materials collected at the transfer station are hauled to Neal Road Recycling and Waste Facility for disposal.

Solid Waste Disposal

The primary solid waste disposal site is the County-owned and-operated Neal Road Recycling and Waste Facility. The Butte County Public Health Department, Environmental Health Division, functions as the local enforcement agency operating under the guidelines of the Enforcement Program Plan and the oversight of CalRecycle.

Neal Road Recycling and Waste Facility is seven miles southeast of Chico in the Central Buttes area, a rural area of the county characterized by topographic plateaus separated by ravines and canyons. Elevations at the site range from 210 to 460 feet above mean sea level. The facility is one mile from the nearest residence.

The landfill is situated on 190 acres of property owned by Butte County. The landfill was operated by the Neal Road Landfill Company under contract with Butte County from 1978 through February 28, 2003. The County Public Works Department assumed daily operational responsibility on March 1, 2003. The landfill was originally opened as a burn dump in 1965. In 1970 it was converted into a sanitary landfill operation under the jurisdiction of the Department of Public Works.

The Neal Road Recycling and Waste Facility is permitted to accept municipal solid waste, inert industrial waste, demolition materials, special wastes containing nonfriable asbestos, and septage (at the septage transfer station). Hazardous wastes, including friable asbestos, are not accepted at the Neal Road facility or any other Butte County disposal facility. The permitted maximum disposal amount at the Neal Road Recycling and Waste Facilty is 1,500 tons per day.

The total capacity of the Neal Road Recycling and Waste Facility was estimated in 2020 at 16,588,874 cubic yards (9,953,324 tons). This number is refuse capacity and was calculated by multiplying the predicted overall refuse effective density by the net fill capacity. Based on a 2 percent annual waste stream growth rate, the facility's service life is estimated to be until the year 2055 (Golder 2020).

The Butte County Department of Public Works serves as the responsible agency that monitors the remaining capacity of the landfill site.

The Neal Road Recycling operates under Facilities Permit No. 04-AA-0002, which was originally issued by the County on February 2, 1999. The permit was revised and renewed July 19, 2005, by Butte County Public Health Department, Environmental Health Division under review of the State. Butte County Public Health Department, Environmental Health Division is responsible for permitting, inspecting, and enforcing regulations at landfill sites. The permit was renewed on June 26, 2018.

Activities at the Neal Road Class III Landfill are also regulated by RWQCB WDRs Order No. R5-2011-0049 and Monitoring and Reporting Program No. R5-2011-0049, which were originally adopted on June 10, 2011 (RWQB 2011). The latter regulatory permitting documents strive to protect surface and groundwater quality.

The Butte County Air Quality Management District issued a Title V operating permit for landfill operations air emissions control. Permit No. NRL-01-01-TV was originally issued to the county Public Works Department on March 3, 2003. The Butte County Public Health Department, Environmental Health Division issues a permit to the Neal Road Recycling and Waste Facility every 5 years and performs monthly inspections.

The Neal Road Recycling and Waste Facility has mechanisms for collecting and disposing leachate. To impede the generation of leachate, a relatively impermeable cover, consisting of synthetic tarp, is installed on the landfill. Leachate is collected along the perimeter of the landfill toe in a rock drain and under landfill modules. The leachate collected in the perimeter system is discharged to a Class II surface impoundment located within the permitted landfill area. Sampling groundwater wells located around the solid waste disposal facility assist in detecting the presence, degree, and migration of leachate. As of 2007, the groundwater monitoring system at the Neal Road Landfill consisted of one upgradient and nine downgradient monitoring wells.

Lysimeters were installed under the disposal site in 1990 to monitor the unsaturated zone water quality. Lysimeters are instruments that measure the water that percolates through a particular depth of soil. There are ten lysimeters installed at Neal Road Recycling and Waste Facility. Sampling and laboratory analysis of water samples collected from the monitoring wells and the lysimeters are performed on a quarterly basis. All data are reported to the RWQCB.

Once the Neal Road Recycling and Waste Facility reaches capacity, closure and post-closure care procedures will be implemented to minimize potential adverse environmental effects. Closure involves capping the landfill with a low-permeability material (compacted clay and a synthetic membrane) to minimize moisture infiltration, developing and maintaining surface drainage control structures, and maintaining the function of leachate and methane collection and monitoring equipment. Post-closure care involves inspecting the site, monitoring the environment, maintaining the land surface, controlling methane, and transporting and treating leachate. Post-closure maintenance is considered a long-term obligation (minimum 30-year period) and is overseen by Butte County Public Health Department, Environmental Health Division Local Enforcement Agency (CalRecycle is the oversite agency for Butte County LEA).

The eastern half (27 acres) of the previous 80-acre refuse footprint closed in 2004. The balance (21 acres) of the previous 80-acre footprint was closed in 2007, and all waste disposal activities were slated to occur on lined modules thereafter.

5.17.3.2 STANDARDS OF SIGNIFICANCE

The proposed project would have a significant impact on solid waste service if:

- It would generate solid waste in excess of State and local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals.
- It would not comply with federal, State, and local management and reduction statutes and regulations related to solid waste.

5.17.3.3 PROPOSED GENERAL PLAN POLICIES

The following are relevant policies of the Butte County General Plan Update, which may reduce impacts to solid waste services a result of implementation of the proposed project.

Conservation and Open Space Element

- COS-A1.6: Implement curbside organics and green waste collection services for residences and businesses in accordance with SB 1383, including green waste collection where curbside collection is not feasible in the near term.

Public Facilities and Services Element

- PUB-P9.2: Technologies that benefit Butte County and that allow the use of solid waste as an alternative energy source, including biomass or biofuels, shall be promoted.
- PUB-P9.3: Innovative strategies shall be employed to ensure efficient and cost-effective solid waste and other discarded materials collection, disposal, transfer and processing.
- PUB-P9.4: Waste materials shall be considered as potential revenue sources for the County, and the County shall seek to maximize the revenue potential associated with the waste stream as new products, economies, needs and technologies emerge.
- PUB-P9.5: The Neal Road Recycling and Waste Facility should prioritize disposal and processing capacity for waste materials generated within Butte County, but accept waste materials from outside the county when capacity is available and the rates cover the full cost of disposal and processing.
- PUB-A9.1: Continue to review and update the Recycling and Waste Facility Plan as needed, to ensure that there is adequate space to meet projected growth.
- PUB-P10.1: The County supports the continued operation of household and business hazardous material waste drop-off facilities.
- PUB-P10.2: The County supports the continued operation of the existing public education program on the importance of disposing of household and business wastes at appropriate collection sites.
- PUB-P11.1: The County shall meet or exceed State waste diversion requirements.
- PUB-P11.2: Construction sites shall provide for the salvage, reuse, or recycling of construction and demolition materials.
- PUB-P11.3: Public buildings shall be designed or improved with on-site storage facilities for recycled materials.
- PUB-P11.4: The County shall use post-consumer recycled paper and other recycled materials for County operations whenever possible.
- PUB-P11.5: The County supports private and public composting facilities.
- PUB-A11.1: Continue to implement and expand the County's action program to achieve more aggressive recycling goals, including recycling of construction materials.

5.17.3.4 IMPACT DISCUSSION

UTIL-7	The proposed project would be served by a landfill with sufficient **permitted capacity to accommodate the proposed project's solid waste** disposal needs.

General Plan 2040

Development allowed by General Plan 2040 would occur entirely within Butte County. Therefore, the majority of the solid waste generated by new development would be disposed into the Neal Road Recycling and Waste Facility. The Neal Road Recycling and Waste Facility is currently operating below capacity. The landfill solid waste permit estimates the landfill to reach capacity in 2048 however, current trend projections estimate a later date. As a result, it can be concluded that there would be adequate capacity in the landfill to support county increases in population. Therefore, implementation of General Plan 2040 would not generate more solid waste than could be accommodated by the daily or long-term permitted capacity of the Neal Road Recycling and Waste Facility.

In addition, Butte County is committed to reducing its waste stream. In 2006 the County diverted 56 percent of its waste stream from the Facility. Future innovations in recycling technology may allow the County to increase its recycling capability significantly, thereby conserving landfill space. Furthermore, the General Plan Public Facilities and Services Element includes a number of policies and actions that would reduce the waste stream.

- Policy PUB-P11.1 requires that the County meet or exceed State waste diversion requirements.
- Policy PUB-P11.2 requires that construction sites provide for the salvage, reuse, or recycling of construction and demolition materials.
- Policy PUB-P11.3 requires that public buildings be designed or improved with on-site storage facilities for recycled materials.
- Policy PUB-P11.4 directs the County to use post-consumer recycled paper and other recycled materials for County operations whenever possible.

In addition, Action PUB-A9.1 directs the County to review and update the Recycling and Waste Facility Plan as needed to ensure that there is adequate space to meet projected growth.

Since there is adequate long-term landfill capacity serving Butte County and General Plan 2040 includes policies and actions to reduce the waste stream, General Plan 2040 would have a less than significant impact with regard to landfill capacity.

Level of Significance Before Mitigation: UTIL-7 would be less than significant.

Mitigation Measures

No mitigation measures are required.

Upper Ridge Community Plan

As discussed in Chapter 3, *Project Description*, the URCP would increase development potential in the Upper Ridge community with 28 parcels redesignated from Retail and Office to Mixed-use land uses in the Old Magalia and Magalia Center neighborhoods. Potential future development under the proposed project would add a maximum of 1,915 additional residents to the Upper Ridge community. As noted above, General Plan 2040 includes a number of policies and actions that would reduce the waste stream. Additionally, the Neal Road Recycling and Waste Facility has a remaining capacity of 20.8 million cubic yards of its 25.3 million cubic yard maximum capacity (CalRecycle 2022). Development in the URCP area would not result in a waste output that would exceed the capacity of the Neal Road Recycling and Waste Facility. Since there is adequate long-term landfill capacity serving Butte County and General Plan 2040 includes policies and actions to reduce the waste stream, development in the URCP area under General Plan 2040 would have a less than significant impact with regard to landfill capacity.

Level of Significance Before Mitigation: UTIL-7 would be less than significant.

Mitigation Measures

No mitigation measures are required.

UTIL-8	The proposed project would comply with federal, State, and local statutes and regulations related to solid waste.

General Plan 2040

General Plan 2040 includes policies and actions that help the County to meet the State-mandated 75 percent recycling goal and to minimize the amount of solid waste generated by residents and businesses. Policy PUB-P9.1 encourages residents, businesses and industries to reduce the use of nonbiodegradable and non-recyclable materials, and because the amount of recycled material is largely dependent on individual choice, Action PUB-A9.2 requires education materials to be distributed to the public regarding solid waste reduction, recycling and composting, and proper handling of household hazardous waste.

Action PUB-A11.1 calls for the County to implement and expand its program to achieve more aggressive recycling goals, and Policy PUB-P11.1 requires the County to meet or exceed the State waste diversion requirements. In an effort to limit bulky, recyclable construction materials from the landfill, construction sites shall facilitate diversion of those materials, according to Policy PUB-P11.2. Given the policies and actions described above, General Plan 2040 would minimize potential increases in solid waste generation by calling for an increase in recycling. Therefore, this impact would be less than significant.

Level of Significance Before Mitigation: UTIL-8 would be less than significant.

Mitigation Measures

No mitigation measures are required.

Upper Ridge Community Plan

The URCP would increase development potential in the Upper Ridge community with 28 parcels redesignated from Retail and Office to Mixed-use land uses in the Old Magalia and Magalia Center neighborhoods. Potential future development under the proposed project would add a maximum of 1,915 additional residents to the Upper Ridge community. As noted above, General Plan 2040 includes several policies and actions that would help the County to meet the State-mandated 75 percent recycling goal and to minimize the amount of solid waste generated by residents and businesses. These policies and actions include Policies PUB-P9.1, PUB-P11.1, and PUB-P11.2 and Actions PUB-A9.2 and PUB-A11.1. As a result, impacts would be less than significant.

Level of Significance Before Mitigation: UTIL-8 would be less than significant.

Mitigation Measures

No mitigation measures are required.

5.17.3.5 CUMULATIVE IMPACTS

UTIL-9	The proposed project, in combination with past, present, and reasonably foreseeable development, would result in less-than-significant impacts with respect to solid waste.

Growth within and around Butte County would contribute to an increase in the need for solid waste disposal service. As discussed above, the Neal Road Recycling and Waste Facility currently has about a 24-year capacity. As a result, it can be concluded that there would be adequate capacity to support county increases in population. In addition, General Plan 2040 includes Policy PUB-P9.5, which requires the Neal Road Recycling and Waste Facility to prioritize waste materials from Butte County and only accept waste materials from outside the county if there is landfill capacity available. Given the long-term remaining capacity of the Neal Road Recycling and Waste Facility and priority for waste generated in Butte County, General Plan 2040 would have a less than significant cumulative impact on solid waste.

Level of Significance Before Mitigation: UTIL-9 would be less than significant.

Mitigation Measures

No mitigation measures are required.

5.17.4 STORMWATER INFRASTRUCTURE

5.17.4.1 ENVIRONMENTAL SETTING

This section describes existing regulations and physical conditions of stormwater facilities in Butte County, as well as potential impacts of the proposed General Plan 2040 with regard to stormwater facilities.

Regulatory Setting

Federal Regulations

Clean Water Act

The Clean Water Act (CWA) establishes the basic structure for regulating discharges of pollutants into the waters of the United States and regulating quality standards for surface waters. The basis of the CWA was enacted in 1948 and was called the Federal Water Pollution Control Act, but the act was significantly reorganized and expanded in 1972. "Clean Water Act" became the act's common name with amendments in 1972.

Under the CWA, the EPA has implemented pollution-control programs, such as setting wastewater standards for industry. EPA has also developed national water quality criteria recommendations for pollutants in surface waters.

The CWA made it unlawful to discharge any pollutant from a point source into navigable waters unless a permit was obtained.

FEMA Flood Zones

The Federal Emergency Management Agency (FEMA) has designated areas in Butte County that have a higher likelihood of experiencing flooding from high levels of rain. These areas are broken down into zones that are labeled according to their percent annual chance of flooding. Areas within the County that are designated as having a higher likelihood of flooding would have higher flood insurance rates, and during a flood event these areas would be more likely to expose the water supply to pollutants than other areas due to erosion (i.e., the process of materials eroding or being eroded by wind, water, or other natural agents). As a result, water discharge policies and best management practices are extremely important to these areas when a project is considered. The County implements development regulations in flood zones through Chapter 26, Article IV, Flood Hazard Prevention.

State Regulations

National Pollutant Discharge Elimination System

The SWRCB regulates water quality in California to protect the environment and public health and to properly allocate water resources. One of the main ways that the CWA and the SWCRB can ensure that stormwater will not contain pollutants is through the National Pollutant Discharge Elimination System (NPDES) permit. The NPDES regulates stormwater discharges from three main sources: Municipal Separate

Storm Sewer Systems (MS4), construction activities, and industrial activities. All three sources require different NPDES permits to regulate and enforce mitigation measures within specific physical boundaries before stormwater is discharged to prevent harmful pollutants from running off into local, State, and federal surface waters such as lakes, streams, and rivers.

MS4 Permits

MS4 Permits are NPDES permits issued by the EPA, by way of the SWRCB, and authorize governmental entities to discharge stormwater collected by their storm sewer systems to waters of the United States. In Butte County, the requirements of the MS4 Permit are implemented under the County's Stormwater Management Program, discussed below. Chapter 50, Stormwater Management and Discharge Control, of the County municipal code defines the area that is subject to MS4 Permit, which includes parts of the unincorporated area around the City of Chico.

Local Regulations

Stormwater Management Program

Butte County's Storm Water Management Program was last revised in September 2003. It provides an outline of how the County plans to implement the conditions and requirements of its MS4 Permit for the several hundred miles of open drainage ditches, pipe, and detention basins that it operates and maintains.

The plan implements the MS4 Permit by providing public outreach about stormwater pollution and its prevention, contributing to community water body cleanups, establishing the County's Stormwater Ordinance, and requiring the implementation of best management practices (BMP).

Butte County Code of Ordinances

Butte County has adopted a Stormwater Management and Discharge Ordinance that allows the County to enforce water pollution prevention to limit detrimental stormwater discharges. The Stormwater Ordinance can be found in Chapter 50 of the Butte County Code. The Stormwater Ordinance limits discharges into the County storm drain system, natural surface waters, and water courses, and requires the implementation of BMPs to prevent the discharge of pollutants to the maximum extent practical. The County has the authority to inspect, monitor, and enforce implementation of BMPs and prohibit illicit discharges.

Upper Ridge Community Plan

The Butte County Board of Supervisors adopted the URCP on March 8, 2022. General Plan 2040 Policy LU-P15.2 states: this General Plan hereby incorporates by reference the policies and actions identified in the Upper Ridge Community Plan for the corresponding planning area. The following strategies are included in the URCP regarding stormwater drainage and flooding. The numbering is from the plan and therefore may not be consecutive.

Hazard Risk Reduction: Flooding

- **Strategy HS-1.7**: Develop a Stormwater Master Plan for the Upper Ridge, evaluating where stormwater infrastructure is deficient in conveying a 100-year storm, integrating climate change

considerations, and providing infrastructure development or upgrades to reduce flooding and ponding of water on the Upper Ridge.

Utilities Infrastructure Strategies: Stormwater

- **Strategy UI-3.1:** As the Magalia Center area develops, the proximity of stormwater runoff to waterways will require that stormwater runoff be regulated by a NPDES phase II (MS4) permit in the future. Therefore, development should coordinate with ongoing County efforts to implement MS4 requirements.
- **Strategy UI-3.2:** Consider a stormwater master plan for the Magalia Center Concept area, to determine impacts to the overall stormwater system and propose improvements to alleviate impacts.

Existing Conditions

Climate and Topography

Butte County is in the Sacramento River Hydrological Region, and has a Mediterranean climate with cool, wet winters and hot, dry summers. Average annual precipitation generally increases from west to east across Butte County, associated with increasing elevation. Moisture-laden weather patterns from the Pacific Ocean travel west to east across California and Butte County during the winter months. Air cools as it moves east, and it is lifted over the Sierra Nevada through the process of orographic cooling. This process results in condensation of moisture and precipitation. Precipitation is strongly seasonal, occurring generally between October and March or April, with about two-thirds of the total annual precipitation generally occurring between November and February. As an example of the difference in precipitation between the western and eastern portions of the county, precipitation measured at the Chico University Farm between 1981 and 2015 averaged 27.0 inches, varying from 13.2 inches in 2007 to 48.0 inches in 1998. In Paradise, precipitation averaged 55.8 inches between 1981 and 2015, varying from 34.8 inches in 2014 to 102.3 inches in 1995 (Butte 2016).

Watersheds

There are seven watersheds in Butte County, described below:

Big Chico Creek Watershed

Big Chico Creek originates from a series of springs that flow off the Sierra mountains to form a main channel at Butte Meadows. Big Chico Creek flows 45 miles from its origin, crossing portions of Butte and Tehama Counties, to its confluence with the Sacramento River. The Big Chico Creek Watershed also encompasses three smaller drainages to the north: Sycamore, Mud, and Rock Creeks. Closest to Big Chico Creek is Sycamore Creek, which originates at approximately 1,600 feet in elevation and is a tributary to Mud Creek. Mud and Rock Creeks, further north, originate between 3,600 and 3,800 feet in elevation. Mud Creek drains off Cohasset Ridge to the south, flowing 26 miles to its confluence with Big Chico Creek. Rock Creek drains the north side of Cohasset Ridge and flows 28.5 miles before it joins Mud Creek (BCCWA 2004). The Big Chico Creek watershed is approximately 72 square miles (107,948 acres), with an average annual discharge

of 102.1 TAF. Winter flows average more than 300 cfs, with summer averages dropping to 30 cfs (BCCWA 2004).

Butte Creek Watershed

Butte Creek originates in the Lassen National Forest at over 7,000 feet in elevation. Butte Creek travels through canyons through the northwestern region of Butte County and then through the valley, entering the floor near Chico. The northern Sierra and southern Cascade mountain ranges divide the valley section from the mountainous section of the Butte Creek watershed in Butte County. Once Butte Creek enters the valley section of the watershed near Chico, it travels approximately 45 miles before it enters the Sacramento River (CSU Chico 2000). Levees were constructed along Butte Creek in the 1950s by the US Army Corps of Engineers. These levees extend for over 14 miles along the Butte Creek channel. The Butte Creek watershed is approximately 809 square miles (162,199 acres). The mean monthly flow near Chico is 417 cfs, with peak flow occurring mid-February averaging 826 cfs. September typically sees the lowest flows, averaging 119 cfs. Downstream from Chico, instream flows typically range from 5 to 25 cfs during irrigation season.

Cherokee Watershed

Cherokee Canal, which was originally constructed to protect agricultural land from mining debris, now serves as an irrigation drainage canal. Dry Creek becomes Cherokee Canal northeast of Richvale, and Gold Run and Cottonwood Creek join the Cherokee Canal upstream of the Richvale Road crossing. Cherokee Canal eventually enters Butte Creek near the southwestern corner of Butte County, south of Highway 162. The Cherokee Watershed has an area of approximately 261 square miles (167,053 acres).

Feather River/Lower Honcut Creek Watershed

After the Feather River flows through the Oroville Dam, it enters the City of Oroville and continues south, joining with the Yuba River at Marysville and Yuba City, and eventually the Sacramento River. The Feather River/Lower Honcut Creek Watershed also contains another Dry Creek, unrelated to the Dry Creek in the Cherokee Watershed. This Dry Creek is in the City of Oroville and has three tributaries that join together, and the main channel ends within the City of Oroville. Wyman Ravine, which originates south of Oroville, drains the southern portion of the watershed and flows into Honcut Creek. The north, middle, and south Honcut Creeks drain both the Lake Oroville/Upper Feather River Watershed and the Feather River/Lower Honcut Creek Watershed. The south fork of Honcut Creek forms the southern border of Butte County. The Feather River/Lower Honcut Creek Watershed has a total area of approximately 280 square miles (178,925 acres).

Lake Oroville/Upper Feather River Watershed

The North Fork of the Feather River originates in northern California in the Lassen Volcanic National Park. It flows south into Lake Oroville, where it joins the south and middle forks of the Feather River. Oroville Dam, constructed in 1968, houses six power generation units and four additional units in the Thermalito Power Plant. The Thermalito Forebay and Afterbay are holding reservoirs downstream of Lake Oroville; they allow water released from Lake Oroville to generate power during established peak periods and to be pumped back into the lake during off-peak periods. Other smaller creeks in the watershed flow into Lake Oroville, including Cirby and Concow Creeks, which initially join to flow into the Concow Reservoir upstream of Lake

Oroville. The Lake Oroville/Upper Feather River Watershed has a total area of approximately 532 square miles (340,699 acres).

Little Chico Creek Watershed

Little Chico Creek originates on the northwestern boundary of the Butte Creek Watershed and flows through canyons before reaching the City of Chico. Before Little Chico Creek enters the Chico urban area, it passes a diversion structure constructed in the 1960s that diverts high flow from Little Chico Creek into Butte Creek. Little Chico Creek flows through the City of Chico before entering the valley, at which point it disperses through numerous waterways within the region. The Little Chico Creek Watershed has a total area of approximately 136 square miles (87,137 acres).

Pine Creek Watershed

The Pine Creek Watershed is in the northeastern section of Butte County. Pine Creek, as well as Rock Creek and Keefer Slough (which are in the Big Chico Creek watershed), drain part of the northern region of the Big Chico Creek Watershed and eventually drain into the Sacramento River. The Pine Creek Watershed has a total area of approximately 47 square miles (29,938 acres).

Special Districts

The California Water Code allows for the formation of special districts with elected legislative bodies that are designed with specific functions relating to water resources, such as the construction, operation and maintenance of infrastructure that conveys and stores stormwater to designated areas for groundwater recharge and the protection of infrastructure and private property. Beneficiaries of those special districts, including property owners, are assessed a fee to fund the special activities. As of 2018, there are eight drainage and reclamation districts within Butte County (Butte LAFCO 2018).

- Drainage District No. 1 serves approximately 6,249 acres and is adjacent to the City of Gridley, east of the Feather River.
- Drainage District No. 2, covers approximately 7,587 acres and is near the town of Nelson in southwestern Butte County.
- Drainage District No. 100 covers 27,013 acres and an estimated population of 956 people; it is near the town of Richvale in southwestern Butte County.
- Drainage District No. 200 serves 6,636 acres and is between Richvale and State Route 99 in southwestern Butte County.
- Butte Creek Drainage District serves 47,852 acres and encompasses the town of Nelson and other areas in southwestern Butte County south of Durham.
- Rock Creek Reclamation District serves 4,644 acres and is along Rock Creek between Highway 99 and Pine Creek in northwestern Butte County.
- Sacramento River Reclamation District serves 6,249 acres and is adjacent to the Sacramento River in western Butte County up to the Tehama County line.

- Reclamation District No. 833 serves 38,600 acres in southwestern Butte County, encompassing the City of Gridley and extending westerly to the Cherokee Canal and Butte Creek.

5.17.4.2 STANDARDS OF SIGNIFICANCE

The proposed project would have a significant impact on stormwater service if it would:

- Require or result in the relocation or construction of new or expanded stormwater drainage facilities, the construction or relocation of which could cause significant environmental effects.

5.17.4.3 PROPOSED GENERAL PLAN POLICIES

The following are relevant policies of the Butte County General Plan Update, which may reduce impacts to stormwater infrastructure a result of implementation of the proposed project.

Water Resources Element

- W-P1.2: The County shall cooperate with state and local agencies in efforts to identify and eliminate or minimize all sources of existing and potential point and non-point sources of pollution to ground and surface waters, including, but not limited to, illegal cannabis grows, burn scars, groundwater recharge, leaking fuel tanks, discharges from storm drains, auto dismantling, dump sites, sanitary waste systems, parking lots, roadways, and logging and mining operations.
- W-P1.4: Where appropriate, new development shall be Low-Impact Development (LID) that minimizes impervious area, minimizes runoff and pollution, and incorporates best management practices.
- W-P6.1: New development projects shall identify and adequately mitigate their water quality impacts from stormwater runoff.
- W-P6.2: The use of permeable surfaces and rainwater catchment/retention systems shall be allowed and encouraged to enhance groundwater recharge.
- W-P6.3: Temporary facilities shall be installed as necessary during construction activities to adequately treat stormwater runoff from construction sites.
- W-P6.4: Stormwater collection systems shall be installed concurrently with construction of new roadways to maximize efficiency and minimize disturbance from construction activity.
- W-P6.5: Stormwater channels should be managed in a way that produces co-benefits, such as supporting recharge, improving water quality, providing recreation areas, and reducing flood risk.
- W-A6.1: Continue outreach activities to inform residents and workers that illegal discharge into storm drains negatively impacts groundwater and surface water quality, such as through “No Dumping” markers and the Keep Chico Clean project.
- W-P7.1: Any alteration of natural channels for flood control shall retain and protect riparian vegetation to the extent possible while still accomplishing the goal of providing flood control. Where removing existing riparian vegetation is unavoidable, the alteration shall allow for reestablishment of vegetation without compromising the flood flow capacity.

- W-P7.2: Where streambanks are already unstable, as demonstrated by erosion or landslides along banks, tree collapse, or severe in-channel sedimentation, proponents of new development projects shall prepare a hydraulic and/or geomorphic assessment of on-site and downstream drainageways that are affected by project area runoff.

5.17.4.4 IMPACT DISCUSSION

UTIL-10	The proposed project would not require or result in the construction of new stormwater drainage facilities or expansion of existing facilities, but the construction of these facilities would not cause significant environmental effects.

General Plan 2040

General Plan 2040 would allow new development and more impervious surface coverage that would generate additional storm water runoff. Without new or expanded drainage facilities, the runoff would endanger public safety and the environment.

Provisions of the Butte County Code require that all new development provide appropriate storm drainage facilities in conformance with adopted master drainage plans where they exist and, at a minimum, with mitigation to maintain peak runoff rates at levels equal to or less than pre-development conditions. The County Grading Ordinance requires permitting and environmental review of projects involving the grading of more than 1,000 cubic yards of soil in the eastern portions of the county. These permitting and review requirements ensure a process for identifying and avoiding the creation of project-specific environmental impacts related to new or expanded storm drainage facilities.

The General Plan 2040 Water Resources Element contains policies to ensure that adequate stormwater facilities are provided by new development.

- Policy W-P6.1 requires that new development adequately mitigate its water quality impacts from stormwater runoff.
- Policy W-P6.2 allows and encourages the use of permeable surfaces and rainwater catchment/retention systems to enhance groundwater recharge.
- Policy W-P1.2 directs the County to cooperate with State and local agencies in efforts to identify and eliminate or minimize all sources of existing and potential point and non-point sources of pollution to ground and surface waters, including discharges from storm drains, among other sources.
- Policy W-P1.4 encourages Low Impact Development that minimizes impervious area, minimizes runoff and pollution, and incorporates BMPs.

The policies listed above would help to reduce increases in stormwater runoff quantity resulting from implementation of General Plan 2040. However, new stormwater drainage facilities would likely be needed to accommodate anticipated development. Specific environmental impacts of necessary new stormwater drainage facilities would be determined either through CEQA review of new development projects or of

Public Works improvements. This EIR is a programmatic document and does not evaluate the environmental impacts of any project-specific development. Any new or expanded stormwater facilities would be considered as part of a specific project and would require environmental review in accordance with CEQA. In addition, new stormwater facilities would be required to comply with the County regulations described above, as well as applicable mitigation measures adopted as a result of the environmental review.

As a result, General Plan 2040 would have a less than significant impact on stormwater drainage facilities.

Level of Significance Before Mitigation: UTIL-10 would be less than significant.

Mitigation Measures

No mitigation measures are required.

Upper Ridge Community Plan

The Upper Ridge Community Plan would increase development potential in the Upper Ridge community with 28 parcels redesignated from Retail and Office to Mixed-use land uses in the Old Magalia and Magalia Center neighborhoods. Potential future development under the proposed project would add a maximum of 1,915 housing units to the Upper Ridge community.

Stormwater improvements in the URCP area generally consist of culverts and ditches to channel stormwater to prevent localized flooding of roadways and other improvements. Butte County Department of Public Works maintains the stormwater improvements. A portion of the URCP area is in the Watershed Protection Overlay boundary, which can affect storm drainage in the area (Butte 2022). According to the County Public Works Department, the current system performs its desired function of conveying stormwater to prevent flooding. As capacity issues arise, they are addressed on a case-by-case basis.

As reported in the URCP, post–Camp Fire hydrology and impacts on runoff have not been an issue except for sediment loading (soil, rocks, and debris that is carried by stormwater runoff into drainage channels and culverts), which has increased and can impact the stormwater system (Butte 2022). Increased sediment loading can lead to deposits in stormwater facilities, decreasing their capacity and leading to uncontrolled stormwater runoff. The County is aware of and monitoring the potential issues related to sediment loading and will develop remediation plans as appropriate. Requirements for stormwater and drainage improvements for new development are outlined in the Butte County Public Works Improvement Standards, Chapter 10 (Butte Public Works 2020). These limit stormwater runoff quantity and quality to predevelopment conditions.

The development intensity proposed under the URCP for the Magalia Center and the proximity of the site to waterways increases the likelihood that stormwater runoff may be regulated in the future. The County has no current stormwater master plan in this area or plans to prepare one, but URCP Strategy HS-1.7 directs the County to develop a stormwater master plan for the Upper Ridge, evaluating where stormwater infrastructure is deficient in conveying a 100-year storm, integrating climate change considerations, and providing infrastructure development or upgrades to reduce flooding and ponding of water on the Upper Ridge.

Any future stormwater master plan efforts should consider measures consistent with SWRCB Order 2013-0001-DWQ, as well as strategies consistent with MS4 requirements. Additionally, stormwater drainage impacts from future projects in the URCP area would be reduced with the implementation of the General Plan 2040 Water Resources Element policies listed above, including Policies W-P1.2, W-P1.4, W-P6.1, and W-P6.2. As a result, impacts would be less than significant.

Level of Significance Before Mitigation: UTIL-10 would be less than significant.

Mitigation Measures

No mitigation measures are required.

5.17.4.5 CUMULATIVE IMPACTS

UTIL-11	The proposed project, in combination with past, present, and reasonably foreseeable projects, would result in less-than-significant cumulative impacts with respect to stormwater infrastructure.

As development proceeds within and around Butte County, including within the incorporated cities, impervious surfaces will increase, thereby increasing stormwater drainage rates and quantity. General Plan 2040 policies that minimize increases in stormwater runoff combined with the detailed Butte County Development Code stormwater drainage provisions for new development and the provisions of the County's NPDES permit would limit the need for new stormwater facilities. These regulations also ensure that new facilities are carefully planned and extensively reviewed for potential environmental impacts prior to construction. These regulations would combine to prevent a cumulative impact from the construction of new stormwater facilities within Butte County. In addition, new stormwater facilities in the region surrounding Butte County would be subject to project-specific environmental analysis and NPDES permits as well as other requirements of the applicable jurisdiction. Therefore, implementation of General Plan 2040 would result in a less than significant cumulative impact to stormwater facilities.

Level of Significance Before Mitigation: UTIL-11 would be less than significant.

Mitigation Measures

No mitigation measures are required.

5.17.5 REFERENCES

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5.18 WILDFIRE

This chapter describes the regulatory framework for wildfire management and protection, existing conditions for wildfire, evacuation planning, and post-fire flooding or landslides within unincorporated Butte County and in the Upper Ridge Community Plan (URCP). The existing conditions include a description of previous wildfire events throughout the county. This chapter also includes a discussion of potential impacts of the Butte County General Plan 2040 and URCP related to wildfire.

5.18.1 ENVIRONMENTAL SETTING

5.18.1.1 REGULATORY FRAMEWORK

This section summarizes key federal, State, regional, and local regulations and programs set forth to identify wildfire risks to new and existing structures and land uses in unincorporated Butte County.

Federal Regulations

National Cohesive Wildfire Management Strategy

The United States Forest Service (USFS) and Bureau of Land Management (BLM) own and manage land within the Plumas National Forest, Lassen National Forest, and other small areas, which have lands within Butte County. In the Federal Land Assistance, Management, and Enhancement Act of 2009 (FLAME Act), Congress mandated the development of a National Cohesive Wildland Fire Management Strategy for all lands within the United States. Wildfire management on these lands is guided by the National Cohesive Wildland Fire Management Strategy, which has three primary goals (DOI and USDA 2014):

1. Resilient landscapes
2. Fire-adapted communities
3. Safe and effective wildfire response

The three goals enable the land managers to manage vegetation and fuels; protect homes, communities, and other values at risk; manage human-caused ignitions; and effectively and efficiently respond to wildfires. California is part of the Western Regional Strategy Committee, chartered to support and facilitate the implementation of the National Cohesive Wildland Fire Strategy.

Healthy Forests Restoration Act

The Healthy Forests Restoration Act (US Code Title 16, Chapter 84, Section 6501) was approved on December 3, 2003, to reduce wildfire risk to communities, municipal water supplies, and at-risk federal lands expediting projects designed to reduce hazardous fuels. This act provides regulations for the protection of watersheds, forests, and rangelands, such as the land surrounding the unincorporated Butte County and the Upper Ridge, from catastrophic wildfires across the landscape. Measures include improving systems to detect insect and disease infestations in hardwood forests; providing forestry assistance to state, private, and tribal landowners; facilitating research on large-scale treatments to reduce pest infestations; and entering into contracts with private landowners to manage their forests.

National Fire Protection Association Standards

National Fire Protection Association (NFPA) codes, standards, recommended practices, and guides are developed through a consensus standards development process approved by the American National Standards Institute. NFPA standards are guidelines for fire protection that are referenced in the California Fire Code, which is adopted by Butte County every three years. Specific standards applicable to wildland fire hazards include, but are not limited to:

- NFPA 1141, Fire Protection Infrastructure for Land Development in Wildlands
- NFPA 1142, Water Supplies for Suburban and Rural Fire Fighting
- NFPA 1143, Wildland Fire Management
- NFPA 1144, Reducing Structure Ignition Hazards from Wildland Fire
- NFPA 1710, Standard for the Organization and Deployment of Fire Suppression Operations, Emergency Medical Operations

State Regulations

California Department of Forestry and Fire Protection

The California Department of Forestry and Fire Protection (CAL FIRE) is dedicated to the fire protection and stewardship of over 31 million acres of California's wildlands. CAL FIRE provides fire assessment and firefighting services for lands within State Responsibility Areas (SRAs), conducts educational and training programs, provides fire planning guidance and mapping, and reviews General Plan Safety Elements to ensure compliance with state fire safety requirements.

The Board of Forestry and Fire Protection is a government-appointed approval body within CAL FIRE. It is responsible for developing the general forest policy of the State, for determining the guidance policies of CAL FIRE, and for representing the State's interest in federal forestland in California. The Board of Forestry and Fire Protection also promulgates regulations and approves General Plan Safety Elements that are adopted by local governments for compliance with State statutes.

The California Office of the State Fire Marshal supports the mission of CAL FIRE by focusing on fire prevention. These responsibilities include regulating buildings in which people live, congregate, or are confined; controlling substances and products which may, in and of themselves, or by their misuse, cause injuries, death, and destruction by fire; providing statewide direction for fire prevention within wildland areas; regulating hazardous liquid pipelines; developing and renewing regulations and building standards; and providing training and education in fire protection methods and responsibilities. These are accomplished through major programs, including engineering, education, enforcement, and support from the Board of Forestry and Fire Protection. For jurisdictions within SRAs or Very High Fire Hazard Severity Zones, the Land Use Planning Program division of the Office of State Fire Marshal reviews Safety Elements during the update process to ensure consistency with California Government Code, Section 65302(g)(3).

Together, the Board of Forestry and Fire Protection, Office of State Fire Marshal, and CAL FIRE protect and enhance the forest resources of all wildland areas of California that are not under federal jurisdiction. The CAL FIRE Land Use Planning Program and the Resource Protection Committee of the California Board of Forestry and Fire Protection reviewed the Butte County Safety Element. The Butte County Fire Department (BCFD) contracts with CAL FIRE for fire protection services throughout the county.

Fire Hazard Severity Zones and Responsibility Areas

CAL FIRE designates Fire Hazard Severity Zones as authorized under California Government Code Sections 51175 et seq. CAL FIRE considers many factors when designating fire severity zones, including fire history, existing and potential vegetation fuel, flame length, blowing embers, terrain, and weather patterns for the area. CAL FIRE designates Fire Hazard Severity Zones within three types of areas depending on what level of government is financially responsible for fire protection:

- LRA – Local Responsibility Area: Incorporated communities are financially responsible for wildfire protection. There is one severity zone in the LRA, which is the Very High Fire Hazard Severity Zone.
- SRA – State Responsibility Area: CAL FIRE and contracted counties are financially responsible for wildfire protection. There are three hazard zones in SRAs: moderate, high, and very high.
- FRA – Federal Responsibility Area: Federal agencies, such as the USFS, National Park Service, BLM, United States Department of Defense, United States Fish and Wildlife Service, and Department of the Interior are responsible for wildfire protection.

2018 Strategic Fire Plan for California

CAL FIRE produced the 2018 *Strategic Fire Plan for California*, which contains goals, objectives, and policies to prepare for and mitigate the effects of fire on California's natural and built environments (CAL FIRE 2018). The 2018 *Strategic Fire Plan for California* focuses on fire prevention and suppression activities to protect lives, property, and ecosystems, in addition to providing natural resource management to maintain state forests as a resilient carbon sink to meet California's climate change goals. A key component of the 2018 *Strategic Fire Plan for California* is the collaboration between communities to ensure fire suppression and natural resource management is successful (CAL FIRE 2018).

2021 California's Wildfire and Forest Resilience Action Plan

The Governor's Forest Management Task Force developed the *California's Wildfire and Forest Resilience Action Plan*, which is a framework for establishing healthy and resilient forests that can withstand and adapt to wildfire, drought, and climate change. This plan accelerates efforts to restore the health and resilience of California's forests, grasslands, and natural places; improves the fire safety of communities; and sustains the economic vitality of rural forested areas. CAL FIRE, in partnership with the USFS, intends to scale up forest thinning and prescribed fire, integrate climate adaptation into the statewide network of regional forest and community fire resilience plans, improve the electricity grid resilience, and promote sustainable land use.

State Responsibility Area and Very High Fire Hazard Severity Zone Fire-Safe Regulations

California Code of Regulations Title 14, Division 1.5, Chapter 7, Subchapter 2, SRA/VHFHSZ Fire Safe Regulations, establishes minimum wildfire protection standards for construction and development within the SRA and Very High Fire Hazard Severity Zone. These standards include basic emergency access and perimeter wildfire protection measures, signing and building numbering, private water supply resources for emergency fire use, and vegetation modification. These regulations apply to all residential, commercial, and industrial buildings within the SRA, the siting of new mobile homes, all tentative and parcel maps, and applications for building permits approved before 1991 where these standards were not proposed. Fire Safe Regulations also include a minimum setback of 30 feet for all buildings from property lines and/or the center of a road. Section 1273.08, Dead-End Roads, of these standards provide regulations for the maximum lengths of single-access roadways requiring the following:

- Parcels zoned for less than 1 acre: 800 feet
- Parcels zoned for 1 to 4.99 acres: 1,320 feet
- Parcels zoned for 5 to 19.99 acres: 2,640 feet
- Parcels zoned for 20 acres or larger: 5,280 feet

Fire Safe Regulations, Section 1299.03, Fire Hazard Reduction Around Buildings and Structure Requirements, provides defensible space requirements for areas within 30 feet of a structure (Zone 1) and between 30 and 100 feet from a structure (Zone 2). In Zone 1, all dead and dying plants are required to be removed and any flammable vegetation that could catch fire must be removed. In Zone 2, horizontal and vertical spacing among shrubs and trees must be created and maintained.

Public Resources Code Section 4291

Public Resources Code Section 4291, Mountainous, Forest-, Brush- and Grass-Covered Lands, is intended for any person who owns, leases, controls, operates, or maintains a building or structure in a mountainous area, forest-covered lands, shrub-covered lands, grass-covered lands, or land that is covered with flammable material, regardless of whether the property is within an SRA or Very High Fire Hazard Severity Zone. This section requires defensible space to be maintained within 100 feet from each side of a structure. An ember-resistant zone is also required within 5 feet of a structure and more intense fuel reduction is required between 5 and 30 feet of a structure.

California Building Standards Code

The California Buildings Standards Code (California Code of Regulations Title 24) provides 12 different codes for construction and buildings in California. This code is updated every three years, with the most recent version effective as of January 1, 2020. Butte County regularly adopts the most recent version of the California Building Standards Code into the Butte County Code of Ordinances, Chapter 26, Buildings.

Building Design Standards

The California Building Code (CBC), Part 2 of 24 California Code of Regulations, identifies building design standards, including those for fire safety. It is effective statewide, but a local jurisdiction may adopt more restrictive standards based on local conditions under specific amendment rules prescribed by the State Building Standards Commission. Commercial and residential buildings are plan checked by local city and county building officials for compliance with the CBC and any applicable local edits. Typical fire safety requirements of the CBC include the installation of sprinklers in buildings and other facilities; the establishment of fire-resistance standards for fire doors, building materials, and particular types of construction in high fire hazard severity zones; requirements for smoke-detection systems; exiting requirements; and the clearance of debris.

Materials and Methods for Exterior Wildfire Exposure

Chapter 7A of the CBC, Materials and Methods for Exterior Wildfire Exposure, prescribes building materials and construction methods for new buildings in a Fire Hazard Severity Zone or Wildland Interface Fire Area. Chapter 7A contains requirements for roofing; attic ventilation; exterior walls; exterior windows and glazing; exterior doors; decking; protection of underfloor, appendages, and floor projections; and ancillary structures. Other requirements include vegetation management compliance, as prescribed in California Fire Code Section 4906 and Public Resources Code Section 4291.

California Fire Code

The California Fire Code incorporates, by adoption, the International Fire Code of the International Code Council, with California amendments. This is the official fire code for the State and all political subdivisions. It is found in California Code of Regulations Title 24, Part 9 and, like the CBC, the California Fire Code is effective statewide, but a local jurisdiction may adopt more restrictive standards based on local conditions. The California Fire Code is a model code that regulates minimum fire safety regulations for new and existing buildings; facilities; storage; processes, including emergency planning and preparedness; fire service features; fire protection systems; hazardous materials; fire flow requirements; and fire hydrant locations and distribution. Typical fire safety requirements include installation of sprinklers in all buildings; the establishment of fire-resistance standards for fire doors, building materials, and particular types of construction; and the clearance of debris and vegetation within a prescribed distance from occupied structures in wildfire hazard areas.

Wildland-Urban Interface Areas

Chapter 49 of the California Fire Code, Requirements for Wildland Urban Interface Fire Areas, applies to any geographical area identified as a Fire Hazard Severity Zone by CAL FIRE. This section defines Fire Hazard Severity Zones and connects to the SRA Fire Safe Regulation requirements for defensible space, as well as parallels requirements for wildfire protection, buildings construction, and hazardous vegetation fuel management in other sections of the California Code of Regulations and the Public Resources Code.

Fire Risk Reduction Community

A Fire Risk Reduction Community is a Board of Forestry and Fire Protection designation for local agencies in the SRA or Very High Fire Hazard Severity Zone that meet the Board-defined best practices for local fire planning. The requirements for this designation are found in California Code of Regulations, Title 14, Division 1.5, Chapter 7, Subchapter 1, Article 3, Section 1268.01, Criteria for Local Agencies that are Cities, City and County, or Counties. Local agencies must meet the following requirements to obtain this designation:

- Adopt a local ordinance designating Very High Fire Hazard Severity Zones and submit it to the Board.
- Submit the findings for all tentative and parcel maps approved for areas in SRA or Very High Fire Hazard Severity Zone to the Board, as well as a list of subdivisions since January 1, 2013.
- The Safety Element of the General Plan has been submitted to the Board for review within the last eight years, and all recommendations have been adopted.
- After July 1, 2022, a progress report on implementation of the most recent fire safety recommendations from the Board upon subdivision review in a Fire Safety Survey for each community reviewed within the jurisdiction must be submitted.

Butte County obtained a Fire Risk Reduction Community designation on July 1, 2022.

California Public Utilities Commission

In 2007, wildfires in southern California were ignited by overhead utility power lines and aerial communication facilities near power lines. In response, the California Public Utilities Commission (CPUC) began considering and adopting regulations to protect the public from fire hazards posed by overhead power lines and nearby aerial communication facilities. The CPUC published a fire threat map—under Rulemaking 15-05-006, following procedures in Decision 17-01-009, revised by Decision 17-06-024—that adopted a work plan for the development of a utility high fire-threat district where enhanced fire safety regulations in Decision 17-12-024 apply (CPUC 2022a). The fire regulations require electrical utilities to (CPUC 2022b):

- Prioritize the correction of safety hazards.
- Correct nonimmediate fire risks in "Tier 2" (elevated fire threat) areas in the CPUC high fire-threat district within 12 months, and in "Tier 3" (extreme fire threat) areas within 6 months.
- Maintain increased clearances between vegetation and power lines in the high fire-threat district.
- Maintain stricter wire-to-wire clearances for new and reconstructed facilities in Tier 3 areas.
- Conduct annual inspections of overhead distribution facilities in rural areas of Tier 2 and Tier 3 areas.
- Prepare a fire prevention plan annually if overhead facilities exist in the high fire-threat district.

California Government Code

California Government Code Section 65302(g) and Section 65302.15 requires that safety elements be reviewed and revised as needed upon the revision of a Housing Element or Local Hazard Mitigation Plan

(LHMP), but no less than every eight years, to ensure the goals, policies, actions, mapping, and background content are consistent with State regulations and reflect the best available information for wildfire risks, climate adaptation and resiliency, and emergency evacuation routes for certain residential areas. Communities with LHMP updates occurring after January 1, 2022, must also ensure their Safety Elements or LHMPs include an assessment of evacuation routes and their capacity, safety, and viability and evacuation locations under a range of emergency scenarios.

For wildfire and evacuation purposes, a Safety Element must include the following:

- Identify wildfire hazards with the latest fire severity zone maps from the Board of Forestry and Fire Protection, US Geological Survey, and other sources.
- Consider guidance given by the Office of Planning and Research's (OPR) Fire Hazard Planning document.
- Demonstrate that the jurisdiction or contract agency and associated codes satisfactorily address adequate water supply, egress requirements, vegetation management, street signage, land use policies, and other criteria to protect from wildfires.
- Establish in the Safety Element (and other elements that must be consistent with it) a set of comprehensive goals, policies, and feasible implementation measures for protection of the community from unreasonable risks of wildfire.
- Identify evacuation constraints of residential parcels in hazard-prone areas.

Governor's Office of Planning and Research Fire Hazard Technical Advisory

The OPR *Fire Hazard Technical Advisory*, first published in 2015 and updated in 2020, is a planning guide for addressing fire hazards, reducing risk, and increasing resilience across California's diverse communities and landscapes. The guide provides a range of goals, policies, and programs for fire hazard prevention and mitigation, disaster preparedness, and emergency response and recovery. The 2020 update to the Technical Advisory includes specific land use strategies to reduce fire risk to buildings, infrastructure, and communities.

Local Regulations

Butte County General Plan 2030

Land Use Element

- Goal LU-1 Continue to uphold and respect the planning principles on which the County's land use map is based.
    - LU-P1.10 The County shall limit development in foothill and mountain areas that are constrained by fire hazards, water supply, migratory deer habitat, or infrastructure.

Health and Safety Element

- Goal HS-11 Reduce risks from wildland and urban fire.

- HS-P11.1 Fire hazards shall be considered in all land use and zoning decisions, environmental review, subdivisions review and the provision of public services.
- HS-P11.2 Create communities that are resistant to wildfire by supporting the implementation of community wildfire protection plans and wildfire fuel load reduction measures in coordination with the appropriate government, community group, or non-profit organization and California Department of Forestry and Fire Protection (CAL FIRE).
- HS-P11.3 The County supports the Wildfire Mitigation Action Plan, the Butte County Local Hazard Mitigation Plan (LHMP), and the Butte Unit Community Wildfire Protection Plan prepared by CAL FIRE and will cooperate with the Butte County Fire Department and the Butte County Fire Safe Council in implementing these plans.
- HS-P11.4 New development projects shall meet current fire safe ordinance standards for adequate emergency water flow, emergency vehicle access, signage, evacuation routes, fuel management, defensible space, fire safe building construction and wildfire preparedness.

- Goal HS-12 Protect people and property from wildland or urban fires.
  - HS-P12.1 Regulations regarding vegetation clearance around structures, including the removal of ladder fuels, shall be maintained and enforced.
  - HS-P12.2 Fuel breaks shall be required along the edge of developing areas in High and Very High Fire Hazard Severity Zones, as shown in Figure HS-9 or the most current data available from CAL FIRE.
  - HS-P12.3 Fire resistant landscaping and fuel breaks shall be required in residential areas.
  - HS-P12.4 All development projects in wildland urban interface areas in High or Very High Fire Hazard Severity Zones shall provide, at a minimum, small-scale water systems for fire protection.
  - HS-P12.5 After wildfires, the County shall assess risks of landslide, erosion and flooding in burn areas and cooperate with other appropriate agencies on plans to mitigate these risks.
- Goal HS-13 Identify safe and effective evacuation routes and access for fire prevention and suppression.
  - HS-P13.1 New development in High or Very High Fire Hazard Severity Zones, as shown in Figure HS-9, shall identify access and egress routes and make improvements or contribute to a fund to develop, upgrade and maintain these routes.

Public Facilities and Services Element

- Goal PUB-2 Provide adequate fire protection and emergency medical response services to serve existing and new development.
    - PUB-P2.1 The County supports the expansion of fire volunteer services, especially in remote areas, as warranted by Standards of Cover criteria.
    - PUB-P2.2 The adopted Standards of Cover for fire protection shall be maintained and implemented.
    - PUB-P2.3 New fire stations shall be located on sites that are easily accessible, close to existing or future development and/or close to fire hazard areas.

Upper Ridge Community Plan

The following policies are included in the existing URCP regarding wildfire. The numbering is from the plan and therefore may not be consecutive.

Hazard Risk Reduction Strategies - Forestry and Ecological Pests and Diseases

- **Strategy HS-1.10:** Work with Butte County Fire Safe Council to develop a cost-sharing program, such as Hazards Fuels Reduction Program, that provides financial assistance to private property owners to trim or remove dead or diseased trees within 100 feet of structures, including assistance for disposal of material.

Hazard Risk Reduction Strategies – Wildfire

- **Strategy HS-1.22:** Work with landowners, including absentee landowners, to safely maintain vegetation along driveways and private roads to be fire safe.
    - Coordinate with the County Fire Department to enforce defensible space and vegetation management requirements on properties with absentee landowners.
- **Strategy HS-1.24:** Cluster new development on the Upper Ridge to reduce exposure to wildland areas, streamline evacuations, and ensure adequate fire protection services can be provided.
- **Strategy HS-1.25:** Coordinate with Butte County Fire Safe Council to increase the use of the chipper program on the Upper Ridge.
- **Strategy HS-1.26:** Coordinate with Butte County Fire Safe Council to identify funding sources and implement the projects identified in the Community Wildfire Protection Plan for the Magalia Planning Unit. These include, but are not limited to permitted, planning, and proposed fuel reduction projects such as:
    - Mechanical thinning
    - Fuel breaks
    - Chipping
    - Fuel reduction
    - Thinning for hazardous fuel reduction

- **Strategy HS-1.27:** Require landscaping for new single-family residential, multifamily residential, and commercial developments to use fire-resistant landscaping, which uses strategically placed fire-resistant plants to resist the spread of fire to buildings and structures, that will continue to be viable on the Upper Ridge under long-term drought conditions. Fire-resistant landscaping should be consistent with guidance from CAL FIRE's Ready, Set, Go! Program.

Butte County Code of Ordinances

The Butte County Code of Ordinances includes various directives to minimize adverse impacts associated with wildfires in Butte County. The Code of Ordinances is organized by chapter and section. Most provisions related to wildfire and evacuation are included in Chapter 26, Buildings; Chapter 38A, Fire Prevention and Protection; Chapter 53, Camp Fire Recovery; and Chapter 54, North Complex Fire Recovery.

- Chapter 26, Buildings. This chapter adopts the California Building Standards Code in its entirety except for portions that are changed or modified in Section 26-3.1 of the chapter.
- Chapter 38A, Fire Prevention and Protection. This chapter contains provisions for owners and occupants of properties to maintain their properties to reduce the risk of uncontrolled fires; minimize the spread of any fire to other properties; reduce obstructions to fire suppression efforts if a fire does occur; increase the opportunity for firefighters to protect lives; protect populated areas from encroaching fires; reduce the spread of residential and other building fires to wildland vegetation; and prevent interference with fire hazard abatement activities. This chapter builds from the SRA Fire Safe Regulations, containing additional requirements for defensible space, hazardous vegetation management, and abatement.
- Chapter 53, Camp Fire Recovery. This chapter provides an overview of the events during the 2018 Camp Fire and provides a roadmap for recovery. Recovery measures include emergency interim housing within and outside of the Camp Fire area. This ordinance expires December 31, 2023.
- Chapter 54, North Complex Fire Recovery. This chapter provides an overview of the events during the 2020 North Complex Fire and provides a roadmap for recovery. These recovery measures include debris and hazardous tree removal and emergency interim housing within and outside of the North Complex Fire area. This ordinance expires December 31, 2023

Butte County Local Hazard Mitigation Plan

The purpose of hazard mitigation planning is to reduce the loss of life and property by minimizing the impact of disasters. The Butte County LHMP, mostly recently updated in 2019 in accordance with the federal Disaster Mitigation Action of 2000 (DMA 2000), provides an assessment of natural hazards in the county and a set of short-term mitigation actions to reduce or eliminate the long-term risk to people and property from these hazards. In the context of an LHMP, mitigation is an action that reduces or eliminates long-term risk to people and property from hazards, including wildfire. Mitigation actions related to wildfire in Chapter 5 of the LHMP include fuel reduction and maintenance in unincorporated communities in the county, an eave vent replacements and education project, fire-wise communities and education program, a fuels-reduction chipper program, residents' assistance program for fuels reduction and defensible space, Camp Fire hazard tree removal, California Department of Water Resources Fuel Load Management Plan, and refuge areas.

The LHMP must be reviewed and approved by the Federal Emergency Management Agency (FEMA) every five years to maintain eligibility for disaster relief funding. As part of this process, the California Governor's Office of Emergency reviews all LHMPs in accordance with DMA 2000 regulations and coordinates with local jurisdictions to ensure compliance with FEMA's Local Mitigation Plan Review Guide. As part of the proposed project, the LHMP in its entirety, is adopted into the proposed Safety Element by reference.

Butte County Community Wildfire Protection Plan

The Butte County Community Wildfire Protection Plan identifies and prioritizes pre-fire and post-fire management strategies and tactics meant to reduce the loss of values at risk within the county. The Butte County Community Wildfire Plan has been developed based on the priority goals and objectives identified by CAL FIRE and local collaborators. The two primary components of fire prevention in this plan include information and education, as well as vegetation management. Goals of this plan include engaging with local stakeholder groups to prioritize assets at risk; conducting defensible space inspections and promote compliance with State laws; educating landowners about the risks and their responsibilities of living in the wildlands; integrating fire protection, natural resource management, and fire prevention under a single mission among agencies; and striving to ensure the highest level of environmental protection in all programs and operations. The strategies in this plan will be implemented in cooperation with the fire agencies and the Butte County Fire Safe Council.

Butte County Community Evacuation Plans and Maps

The Butte County Office of Emergency Management prepared a set of community evacuation plans and maps for eight community areas throughout the unincorporated area of the county. These community areas include Berry Creek, Butte Creek/Butte Valley, Cohasset/Richardson Springs, Forbestown/Clipper Mills/Feather Falls/Robinson Mill/Hurleton, Forest Ranch/Butte Meadows, Paradise/Upper Ridge, Yankee Hill Area, and East Oroville/Bangor/Palermo/Cherokee. The plans include preparedness lists for community members, definitions of evacuation advisories, and descriptions of one-way evacuation operations. The maps provide emergency travel route options, assembly points within each community, emergency radio stations, the location of locked gates, and routes not recommended for use as evacuation routes. These plans and maps are available on the County's Disaster Preparedness website (Butte County 2022c).

Butte County Emergency Operations Plan

The Butte County Emergency Operations Plan (EOP), adopted in February 2011, provides planned response actions for emergency events throughout the county. The EOP establishes the emergency management organization required to respond to significant emergencies and disasters, identifies the roles and responsibilities required to protect Butte County community members, and establishes the operational concepts for different emergencies, the Emergency Operations Center, and recovery processes. The EOP includes Functional Annexes that provide direction for specific emergency processes, such as communication and warning, emergency public information, population protection, and care and shelter. There are also 13 hazard appendices that provide an overview of natural and human-caused hazards that the county may experience, including fire.

5.18.1.2 EXISTING CONDITIONS

Wildfire Background

The term "wildfire" refers to fires that usually result from the ignition of dry grass, brush, or timber. Historically, wildfires commonly occurred in areas that are characterized by steep or heavily vegetated areas, which make suppression of the fire difficult. More recently, wildfires have been encroaching into more urban areas within the wildland-urban interface (WUI), threatening homes, businesses, and essential infrastructure. While wildfires play an important role in the ecology of many natural habitats, as urban development moves into areas susceptible to wildfire hazards, risks to human safety and property increase.

Types of Wildfires

There are three basic types of wildfires:

- Crown fires burn trees to their tops and are the most intense and dangerous wildland fires.
- Surface fires burn surface litter and duff and are known for being the easiest fires to extinguish and to cause the least damage. Brush and small trees enable surface fires to reach treetops, and so are referred to as *ladder fuels*.
- Underground fires occur underground in deep accumulations of dead vegetation. These fires move very slowly and can be difficult to extinguish due to limited access (Natural Resources Canada 2018).

Wildfires burn in many types of vegetation—forest, woodland, scrub, chaparral, and grassland. Many species of native California plants are adapted to fire. Chaparral shrubs and conifer forests recover from fire. For example, many species of conifers have seed cones that require fire to open in order for them to reproduce (CAL FIRE 1999). Between 2010 and 2017, wildfires in California burned about 265,000 acres of forest land; 207,000 acres of scrub vegetation; 99,000 acres of grassland; 18,000 acres of desert vegetation; and 14,000 acres of other vegetation types (California Board of Forestry and Fire Protection and CAL FIRE 2018). Wildfires have been observed to be more frequent and growing in intensity the past several years, with 4,304,379 acres and 2,568,948 acres burning in 2020 and 2021, respectively (CAL FIRE 2022).

Wildfire Causes

Although the term *wildfire* suggests natural origins, a 2017 study that evaluated 1.5 million wildfires in the United States between 1992 and 2012 found that humans were responsible for igniting 84 percent of wildfires, accounting for 44 percent of acreage burned (Balch et al. 2017). The three most common types of human-caused wildfires are debris burning (e.g., logging slash, farm fields, trash), arson, and equipment use (Pacific Biodiversity Institute 2007). Power lines can also ignite wildfires through downed lines, vegetation contact, conductors that collide, and equipment failures (Texas Wildfire Mitigation Project 2018). CAL FIRE determined that between 2017 and 2021, 1,344 fires and 639,437 acres have been burned due to electrical power and distribution lines (CAL FIRE 2021). Lightning is the most common cause of nature-induced wildfire (Balch et al. 2017).

An analysis of USFS wildfire data from 1986 to 1996 determined that 95 percent of human-caused wildfires and 90 percent of all wildfires were within 0.5 mile of a road, and that about 61 percent of all wildfires and

55 percent of human-caused wildfires occurred within approximately 650 feet (200 meters) of a road. The study concluded that the increase in human-caused ignition greatly outweighs the benefits of increased access for firefighters (Pacific Biodiversity Institute 2007).

There are three primary methods of wildfire spread:

- Embers. Embers are the most prolific cause of home ignition, at a rate of two out of every three homes destroyed. Embers are glowing or burning pieces of vegetation or construction debris that are lofted during a wildfire and can move up to a mile ahead of a wildfire, especially during high winds. These small embers or sparks may fall on the vegetation near a home (on dry leaves, needles, or twigs on the roof) and subsequently ignite the home. Embers can travel several miles during high wind events, placing a potential risk to all structures without fire-resistant landscaping and construction within a mile of the fire (CAL FIRE 2019).
- Direct Flame Contact. Direct flame contact refers to the transfer of heat by direct flame exposure. Direct contact will heat the building materials of the home, and if the time and intensity of exposure is severe enough, windows will break and materials will ignite.
- Radiant Heat. A house can catch fire from the heat that is transferred to it from nearby burning objects, even in the absence of direct flames or embers. By creating defensible space around homes, the risk from radiant heat is significantly reduced.

Secondary Effects of Wildfires

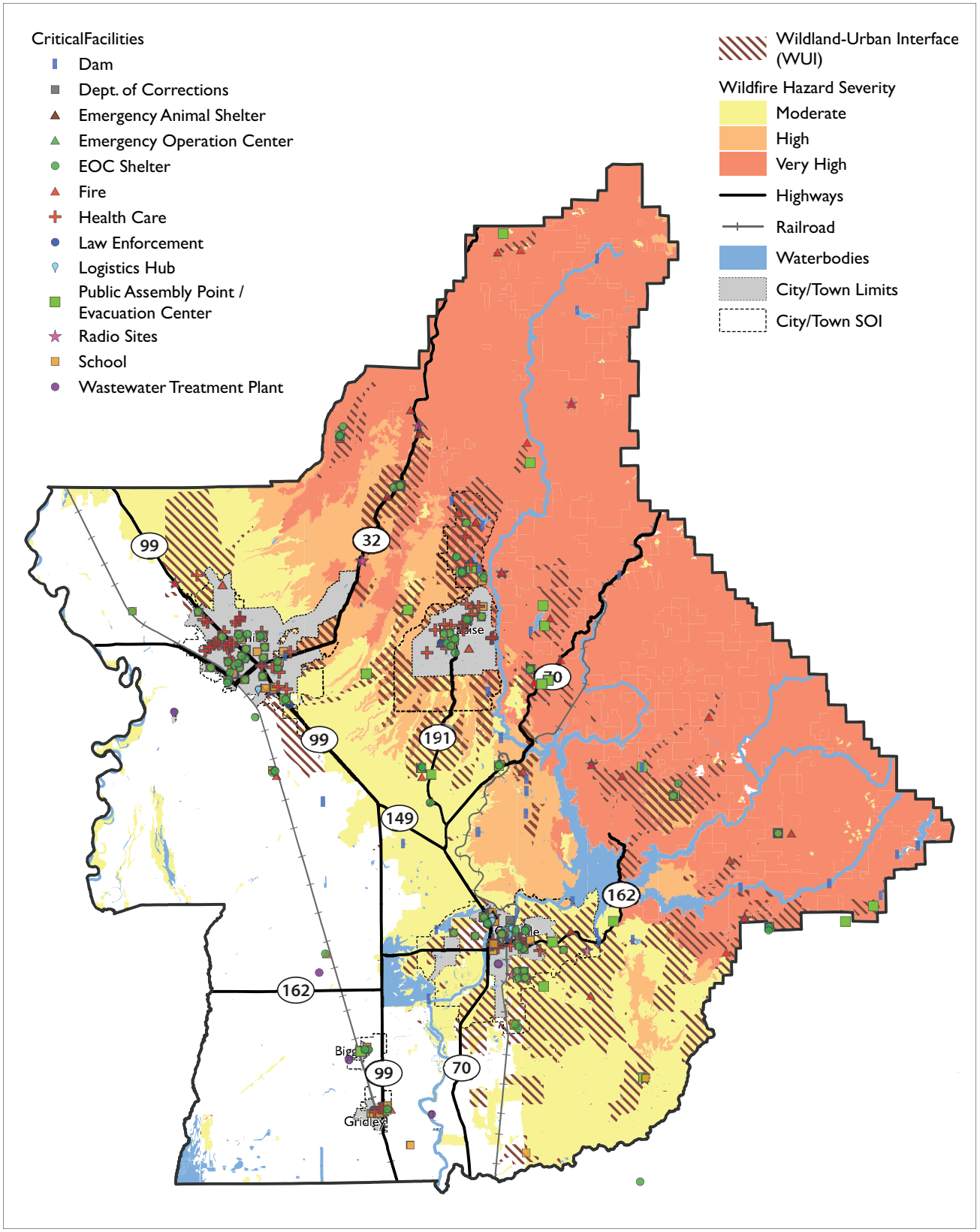
After a high-intensity wildfire, or crown fire, is suppressed, the burn scar is typically bare of its vegetative cover, which had supported the hillsides and steeper slopes. The intense heat from the fire can also cause a chemical reaction in the soil that makes it less porous, and the fire can destroy the root systems of shrubs and grasses that aid in stabilizing slope material. As a result, rainstorms increase the possibility of severe landslides and debris flows.

In addition to damaging natural environments, wildfires can injure and cause fatalities of residents and firefighters, in addition to damaging or destroying structures and personal property. Wildfires also deplete water reserves, down power lines, disrupt communication services, create poor air quality, and block evacuation routes, which can isolate communities. Wildfires can also indirectly cause flooding if flood-control facilities become inadequate to handle increases in storm runoff, sediment, and debris that are likely to be generated from burn scars.

Butte County General Plan Area

As the devastating BTU Lightning Complex Fire of 2008, Camp Fire of 2018, and North Complex Fire of 2020 revealed, most areas of Butte County face some level of threat from wildland fire. As shown in Figure 5.18-1, fire hazard severity zones in the foothills and mountainous areas of the county, extending from Cohasset in the north to Forbestown in the south, have been designated by CAL FIRE as “very high” or “high,” with the majority of the area in the “very high” classification.

WUI areas are also shown on Figure 5.18-1; WUI areas occur when urban development is intermixed with wildland vegetation, or when pockets of wildland vegetation occur inside developed areas. The foothill communities of Kelly Ridge, Bangor, Cohasset, Forest Ranch, Concow, Yankee Hill, Berry Creek, Forbestown, communities on the Upper Ridge, and the Town of Paradise are examples of WUI areas. Unlike wildfire in wildland areas, fires that occur within WUI areas are more likely to damage or destroy buildings and infrastructure that support populations, the economy, and key services within the county. Many of the WUI areas in Butte County have few access roads, which poses challenges for evacuation and for emergency responders to fight the fire and help residents in these areas.



Source: Butte County, 2012; CAL FIRE, 2021; PlaceWorks, 2021

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Scale (Miles)

Figure 5.18-1
Fire Hazard Severity Zones and Wildland Urban Interface in Butte County

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Wildfire History

CAL FIRE maintains a list of historic fires throughout the state. According to CAL FIRE, Butte County has experienced several large and damaging wildfires in the eastern portions of the county and in the WUI. Table 5.18-1 lists historic wildfire incidents greater than 5,000 acres that have occurred within the county from 1887 to 2021. Figure 5.18-2 shows the historic wildfire perimeters for fires over 5,000 acres that have burned in Butte County between 1880 and 2021. The largest fires of the recent past were the Camp Fire in 2018, the North Complex Fire in 2020, and the Dixie Fire in 2021. The sections below provide additional details about these recent fires.

TABLE 5.18-1 HISTORIC WILDFIRES OVER 5,000 ACRES IN BUTTE COUNTY, 1887 TO 2021

Year	Fire Name	Total Burned Acres [a]	Cause
1917	N/A	12,701	Miscellaneous
1917	N/A	8,003	Unknown
1918	N/A	22,232	Miscellaneous
1926	N/A	12,536	Miscellaneous
1927	N/A	8,541	Unknown
1927	N/A	27,841	Unknown
1931	N/A	5,468	Unknown
1931	N/A	42,078	Miscellaneous
1943	Pine Creek	11,360	Miscellaneous
1945	N/A	6,358	Miscellaneous
1951	Milk Ranch	12,979	Miscellaneous
1964	Lightning #1	9,876	Miscellaneous
1966	Project 19	5,725	Miscellaneous
1984	Bidwell	6,192	Miscellaneous
1990	Campbell	6,028	Equipment Use
1992	Burton	5,915	Equipment Use
1992	Villa	6,605	Powerline
1999	Musty	16,757	Lightning
1999	Doe Mill	10,857	Lightning
1999	Bucks	34,236	Lightning
2000	Storrie	56,261	Railroad
2001	Poe	8,333	Arson
2008	BTU Lightning Complex	53,699	Lightning
2008	Humboldt	23,344	Arson
2008	South-Frey	12,402	Lightning
2008	Scotch	13,009	Lightning
2017	Cherokee	8,417	Power line
2017	Wall	6,033	Equipment Use
2017	Cascade	16,141	Unknown
2018	Camp Fire	153,336	Power line
2020	North Complex Fire	318,935	Lightning
2021	Dixie Fire	963,309	Power line

Notes:

a. The total burned acres includes all land burned by each wildfire, including land outside of Butte County

Source: CAL FIRE, Fire and Resource Assessment Program. 2020.

2018 Camp Fire

In November 2018, Pacific Gas and Electric Company (PG&E) notified customers for two days that it might shut down power due to a forecast of high winds and low humidity, and a red flag warning issued by the National Weather Service, but ultimately PG&E did not de-energize the power lines. On Thursday, November 8, 2018, around 6:15 a.m., a power transmission line above Poe Dam near Pulga malfunctioned and sparked. A PG&E Rock Creek Powerhouse field crew reported a fire under power transmission lines near Poe Dam to CAL FIRE by at 6:33 a.m. By 8:00 a.m., the fire entered the Town of Paradise and evacuation orders were sent out for the town, the Upper Ridge community, and surrounding areas. The emergency alert system faltered due to its opt-in nature and the loss of 17 cell towers, and the majority of residents in the area did not receive emergency notifications.

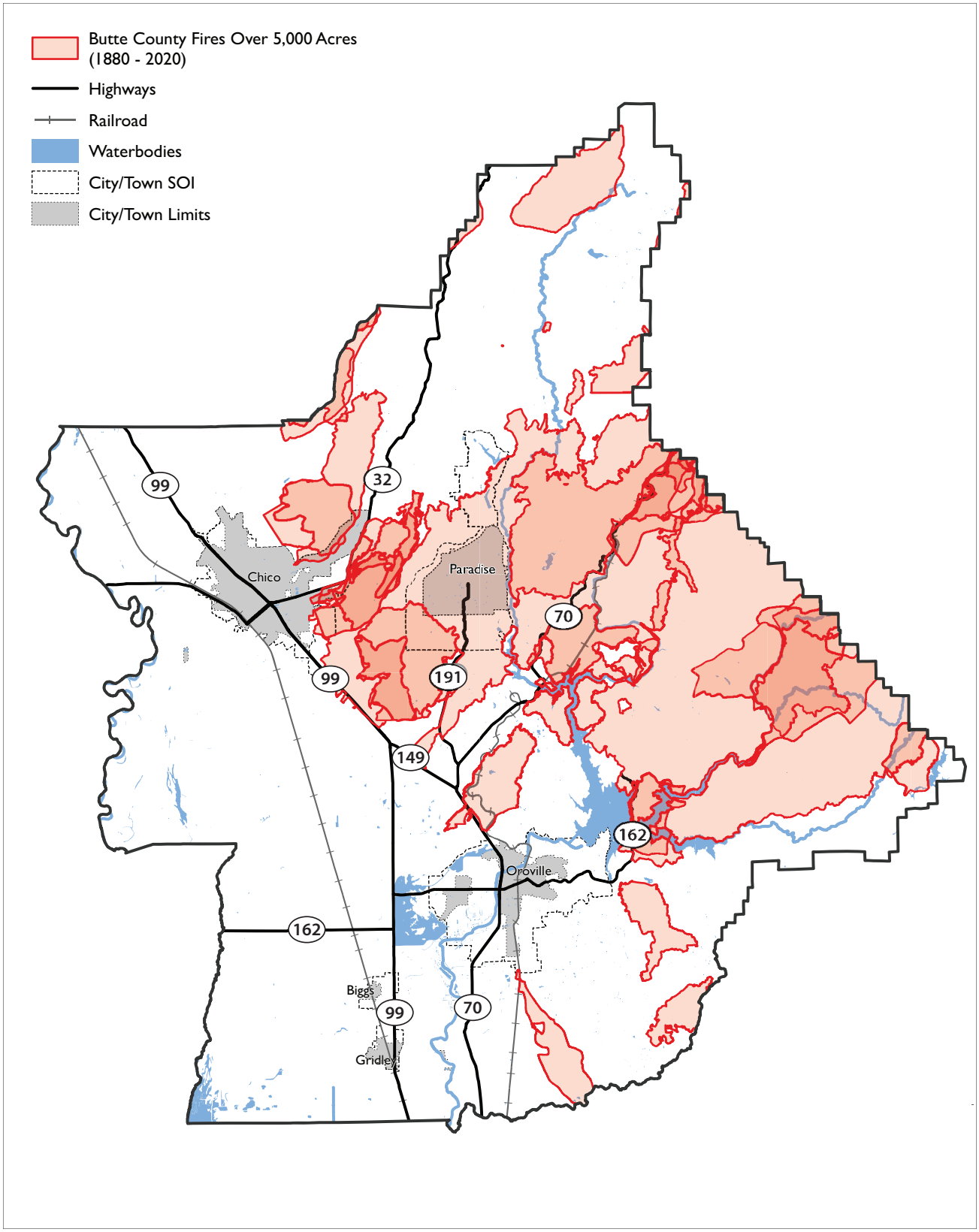
By November 10, 2018, the Camp Fire had become the most destructive fire in California's history. The fire spread rapidly and firefighter crews were unable to fully contain the fire until November 25, after rain fell on November 21. While the majority of damage occurred in the Town of Paradise, several unincorporated communities and areas were also damaged or destroyed. In the unincorporated areas of the county, 4,569 structures were completely destroyed, 194 were damaged, and only 2,402 structures within the fire perimeter remained undamaged (Butte County 2019).

In total (including the Town of Paradise), the Camp Fire directly and indirectly caused 87 fatalities, including 3 CAL FIRE personnel and 84 residents. The Camp Fire burned 153,336 acres and destroyed 14,500 structures, including 13,696 single-family homes, 376 multifamily homes, 528 commercial structures, and 4,293 other structures. Approximately 589 additional structures were also damaged. The fire, by far, killed more people and destroyed more structures than any other fire in California's recorded history (Butte County District Attorney 2020).

2020 North Complex Fire

On Monday, August 17, 2020, a lightning storm hit Plumas National Forest in Butte and Plumas Counties. The lightning sparked 21 fires in the area, including the Sheep Fire near Susanville, the Claremont Fire near Claremont Creek just south of Quincy, and the Bear Fire in the Middle Fork canyon near the Pacific Crest Trail. On September 5, 2020, the Sheep Fire was declared a separate incident, but strong winds caused the Bear Fire and Claremont Fire to explode and merge into the North Complex Fire (USFS 2020).

The communities of Berry Creek, Feather Falls, Clipper Mills, Brush Creek, Woodleaf, and Forbestown were evacuated with little warning in the afternoon of September 8 due to the rapidly spreading fire. On September 9, 2020, the fire had burned through Berry Creek and Feather Falls, leaving few structures untouched by the flames and the majority of structures completely destroyed. Throughout September 2020, the winds shifted and strong sustained high winds occurred many times, causing the fire to move northeast towards Quincy, north towards Bucks Lake, west towards Concow and the Town of Paradise, south towards Forbestown, and east towards La Porte and Little Grass Valley. The fire burned for three more months (USFS 2020).



Source: Butte County, 2012; California Open Data Portal, 2021; PlaceWorks, 2021

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Scale (Miles)

Figure 5.18-2
Historic Wildfire Perimeters in Butte County

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On December 3, 2020, Plumas National Forest officials announced that the North Complex Fire was 100-percent contained. The North Complex Fire burned 318,935 acres, including completely destroying the communities of Berry Creek and Feather Falls. By December 3, the fire had caused 16 fatalities and damaged or destroyed 2,455 structures within both Butte County and Plumas County. The North Complex Fire was the sixth-largest, fifth most-destructive, and the fifth most-deadly wildfire in California's recorded history (USFS 2020).

Factors Influencing Wildfire

Several factors influence wildfire conditions and facilitate the spread of wildfires, including topography, fuels, weather conditions, and climate change. Human actions are also the leading cause of wildfires in California, increasing the risk of wildfire devastating natural lands and communities. This section describes these five factors in the context of Butte County.

Weather

The climate in Butte County is generally referred to as "Mediterranean" with hot, dry summers and cool, wet winters. Cooler summers and cold winters with snowfall are common in areas of higher elevation. Rainfall throughout the county occurs mainly between October and April, and ranges between 80 inches per year in the foothill/mountain areas in eastern Butte County, to less than 18 inches per year in areas along the Sacramento River in western Butte County. Because the summer months are generally hot and dry, the risk of wildfires has historically been greatest in summer and fall. Relative humidity is also an important fire-related weather factor. As humidity levels drop, the dry air causes vegetation moisture levels to decrease, thereby increasing the likelihood that plant material will readily ignite and burn; the risk of wildfire increases when lightning strikes occur during dry periods.

Wind is a primary weather factor of wildfire behavior. Easterly winds (winds that blow from the east) are common above 3,500 feet in elevation; average wind speeds are less than 8 miles per hour. As wind speeds increase, the rate of fire spread, intensity, and ember spread potential also increases. Gusty and erratic wind conditions can cause a wildfire to spread irregularly, making it difficult to predict its path and effectively deploy fire suppression forces. North to northeast winds in the summer and fall compound the severity of fire conditions, as well as lower relative humidity, creating red flag conditions (CAL FIRE, Butte Unit 2020). Northeast winds are especially dangerous because they are accompanied by low humidity, which can dry out trees and other fuel that may also be weakened by the winds. This can increase wildfire conditions in the area. Wind shifts can also occur suddenly due to temperature changes and interactions with steep slopes or hillsides, causing fires to spread unpredictably.

Fall has historically been one of the most dangerous times for wildfire risk, as periods of very high temperatures, low humidity, and strong wind increases cause red flag warnings and extreme fire danger (CAL FIRE, Butte Unit 2020). Wildfires can easily ignite during these periods, as was the case during the 2018 Camp Fire and 2020 North Complex Fire.

Fuel

A large portion of Butte County is covered by natural vegetation, which provides fuels such as grass, brush, and timber for wildfires (CAL FIRE, Butte Unit 2020). Each type of vegetation contributes to fire hazard severity to varying degrees. The qualities of vegetation, which directly influence fire risk, include fuel type and size, loading, arrangement, chemical composition, and dead and live fuel moisture, which contributes to the flammability characteristics of the vegetation (Butte County 2019).

Western Butte County is covered in grass fuel types, which include dead grasses and lead litter. These fuel types react quickly to changes in weather, such as low humidity or high wind speeds. Fire in this area can spread quickly in gusty wind conditions. Areas between 1,000 and 2,000 feet in elevation are dominated by brush vegetation, which is likely to burn in later summer fires due to low fuel moisture (CAL FIRE, Butte Unit 2020). These fires can be difficult to control, especially on steep slopes and during high wind events. The mountainous areas in eastern Butte County are dominated by timber fuels, which also burn easily in later summer with low fuel moisture (CAL FIRE, Butte Unit 2020).

Topography

Steep terrain or slope plays a key role in the rate and direction in which wildfires spread since fires will normally burn much faster uphill. When the gradient of a slope doubles, the rate of spread of a fire will also likely double (Butte County 2019). Much of the topography in eastern Butte County is carved out by rivers and creeks, creating deep canyons and very steep slopes in areas along the Feather River watersheds and moderately steep and brush-filled areas within the Butte Creek and Chico Creek watersheds.

Human Actions

Most wildfires are ignited by human action, the result of direct acts of arson, carelessness, or accidents. Many fires originate in populated areas along roads and around homes and are often the result of the careless disposal of cigarettes, mowing of dead grass, electricity equipment malfunction, use of equipment, or burning of debris. Recreation areas with increased human activity that are in high or very high fire hazard areas also increase the potential for wildfires to occur.

Climate Change

Climate change is likely to increase annual average temperatures from a historical 71 degrees Fahrenheit (°F), to 76.4°F by 2050 and 80.1°F by 2100 (Butte County Development Services 2021). This will likely create warmer temperatures earlier and later in the year. Precipitation levels are projected to vary over the course of the century, changing from a historical annual average of 52.3 inches per year, to an annual average of 47.2 inches by 2050 and an annual average of 50.8 inches by 2099 (Butte County Development Services). Variations in precipitation patterns will also lead to an increase in frequency and intensity of heavy precipitation events, as well as prolonged periods of drought. The combination of extreme heat and droughts can cause soils and vegetation to dry out, creating more fuel for wildfires. These factors are expected to increase wildfire conditions, creating a risk of more frequent and intense wildfires. Because wildfires burn the trees and other vegetation that help stabilize a hillside and absorb water, more areas burned by fire may also lead to an increase in landslides and floods. Historically, an average of 5,606 acres burned annually in the county (Cal-Adapt 2022). Figure 5.18-2 shows historic wildfire perimeters in the

county. Wildfires are projected to increase to an annual average in the county of 8,562 acres burned by 2050 and an annual average of 14,132 acres burned by 2100 (Cal-Adapt 2022).

Fire Protection Resources

The responsibility for the prevention and management of wildfires in Butte County belongs to the BCFD, with contracted support from CAL FIRE, the USFS Plumas National Forest Unit, and Lassen National Forest Unit. Since 1931, CAL FIRE has provided staffing to the BCFD through an annual cooperative agreement with the County. Under the terms of this agreement, the County funds CAL FIRE professional command, firefighting, and administrative staff to operate BCFD. Through this arrangement, CAL FIRE and BCFD function together as a fully consolidated fire protection agency and provide cost-effective fire protection service for Butte County. The USFS provides wildfire prevention and suppression on lands within the Plumas National Forest and Lassen National Forest. The USFS also provides firefighters, aircraft, and equipment to help other agencies when firefighting assistance is needed.

BCFD provides emergency services to all of Butte County, protecting over 1,600 square miles, several municipalities, and an unincorporated population of approximately 67,640 residents. BCFD services are provided by 22 career-staffed fire stations and 16 volunteer fire stations, and include fire control for structural, vegetation, vehicular, and other unwanted fires; emergency medical service; technical rescue response; hazardous materials response; flood-control assistance; fire prevention and public safety education; fire law enforcement/arson investigation; and vegetation management (CAL FIRE, Butte Unit 2020). In addition, BCFD operates two lookout stations on Bald Mountain and Bloomer Hill to aid in fire detection, as well as uses an extensive network of internet-accessible fire cameras installed in cooperation with the AlertWildfire consortium.

In 2020, CAL FIRE and BCFD's Emergency Command Center (ECC) processed 12,293 calls for service, more than two thirds of which were for emergencies such as medical services, traffic collisions, and public assistance (Gaddie, pers. comm. 2021). BCFD also responded to 679 fires, of which, 273 were vegetation fires (Gaddie, pers. comm. 2021). In addition to fire engine responses, in 2019, the BCFD Fire Center provided 45,490 hours in fuel-reduction project work, including controlled burns and fire crew training. The Fire Prevention Bureau also completed 5,156 defensible space inspections across the county (Butte County Fire Department 2019).

Evacuation and Access

Evacuation routes are designated roadways that allow for many people to quickly leave an area due to a potential or imminent disaster. These routes should have a sufficient capacity to accommodate the needs of the community, be safely and easily accessible, and allow people to travel far enough away to be safe from any emergency conditions.

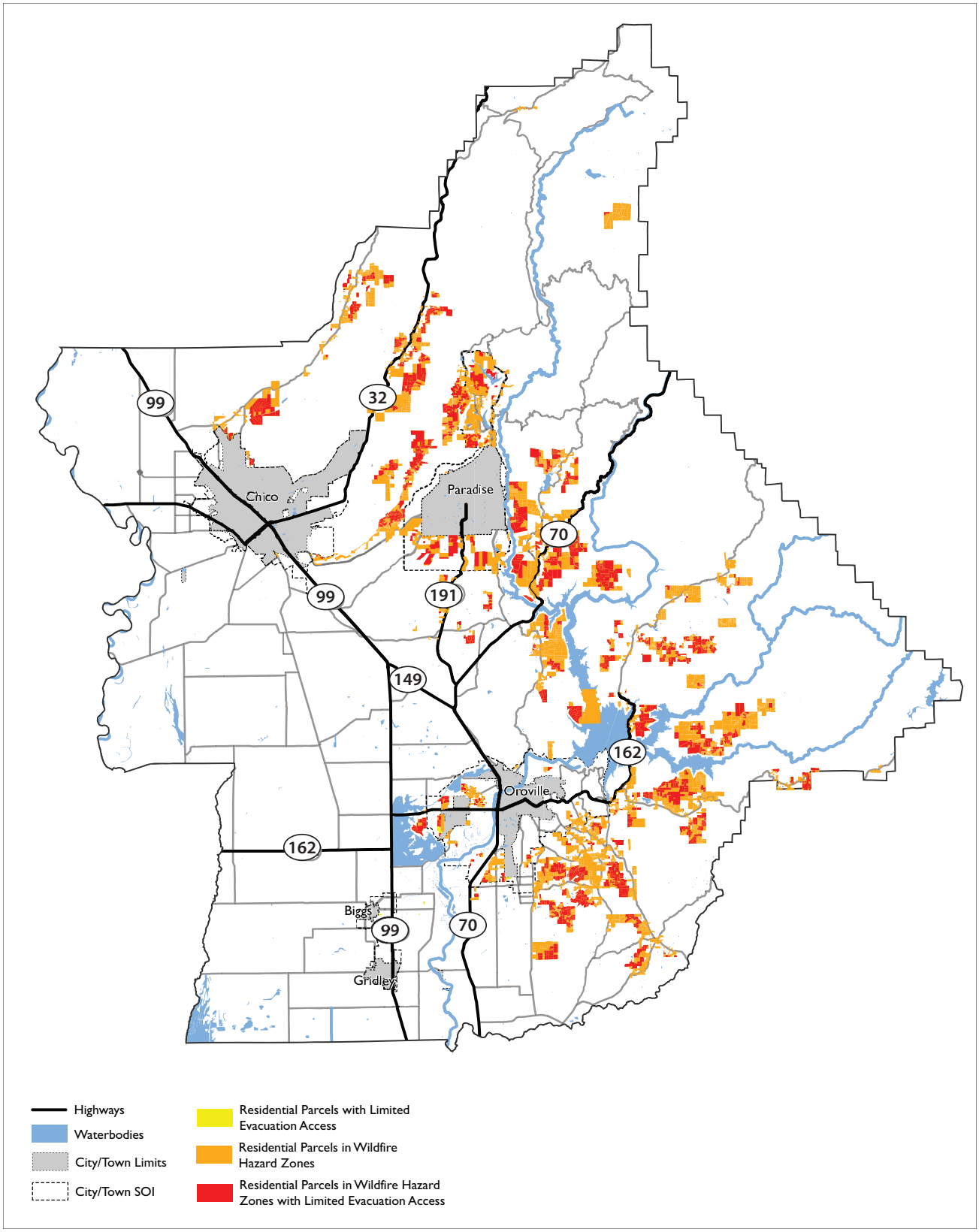
Primary evacuation routes throughout Butte County include State Routes (SR) that traverse the county. These include, but are not limited to, SR-99, SR-32, SR-191, SR-149, SR-70, and SR-162. During emergencies, Butte County Sheriff's Office, BCFD, Butte County Geographical Information Services, and Butte County Search and Rescue coordinate the use of ZoneHaven, an internet-based evacuation mapping application that uses zones to provide evacuation warnings and orders. This application allows for quick and transparent evacuation decision making that speeds up the evacuation notification process.

In remote areas of the county, several communities have evacuation constraints, including only one ingress and egress from neighborhoods or communities. Figure 5.18-3 shows evacuation-constrained residential areas throughout the county in wildfire hazard zones, pursuant to California Government Code Section 65302(g)(5).

Butte County also has evacuation plans and maps for wildfire and other hazards for each sub-region of the county. The evacuation routes, access points, and assembly points in each of these communities is as follows (Butte County 2022a):

- Berry Creek. Primary emergency travel route[1] in Berry Creek is Oro Quincy Highway. Assembly points within this community include Berry Creek School, Lake Madrone, and Loafer Creek Day Use/Picnic Area. To the south, Oro Quincy Highway goes over Lake Oroville on two bridges.
- Butte Creek. Primary emergency travel routes in Butte Creek Canyon include SR-32 and Centerville Road to Honey Run Road to the south. Honey Run Bridge Park is the assembly point in this community.
- Butte Valley. SR-99, SR-149, SR-70, Durham-Pentz Road, Pentx Road, Messilla Valley Road, and Wheelock Road are emergency travel routes. Earthworm Soil Factory and Spring Valley School are assembly points in this community.
- Cohasset/Richardson Springs. Primary emergency travel routes in Cohasset/Richardson Springs communities include Cohasset Road going south towards Chico, and Keefer Road going south towards SR-99. The assembly point in this community is Cohasset School.
- Robinson Mill. Primary emergency travel routes in Robinson Mill include Forbestown Road going south towards Oroville and Robinson Mill Road and La Porte Road going south towards Bangor.
- Forbestown/Clipper Mills. Primary emergency travel routes for Forbestown and Clipper Mills include La Porte Road going south towards Bangor and Forbestown Road going south towards Oroville. Connector emergency travel routes consist of Challenge Cutoff Road and New York Flat Road. Forbestown Community Hall is the assembly point for these communities.
- Feather Falls. The only emergency travel route in Feather Falls is Lumpkin Road going south towards Forbestown Road. Feather Falls Elementary School is the assembly point.
- Hurleton. Emergency travel routes include Lumpkin Road, Forbestown Road, Robinson Mill Road, Oroville Bangor Highway, Foothill Boulevard, Mount Ida Road, and SR-162. The assembly point for this community is Loafer Creek Day Use/picnic area.
- Forest Ranch. The only emergency travel route for the Forest Ranch community is SR-32 and the assembly point is Forest Ranch Charter School.

[1] The Butte County Evacuation Maps refer to evacuation routes as “emergency travel routes,” although these are synonymous with “evacuation route.”



Source: Butte County, 2012; PlaceWorks, 2021

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Scale (Miles)

Figure 5.18-3
Evacuation Constrained Residential Areas in Wildfire Hazard Areas

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- Butte Meadows. The primary emergency travel route is SR-32 with connectors including Skyway, Humboldt Road, and Scout Road. The assembly point is Camp Lassen Boy Scout Camp.
- Paradise. The Town of Paradise is divided into 14 distinct zones for evacuation. Emergency travel routes include Skyway, Neal Road, Clark Road leading towards SR-191, and Pentz Road. Assembly points in the Town include Paradise Alliance Church, Paradise Auditorium, Magalia Community Church, and Pine Ridge School.
- Upper Ridge. The only emergency travel route on the Upper Ridge is Skyway leading towards the Town of Paradise or Butte Meadows. Assembly points include Old Mill Site/Stirling City, Pine Ridge School, and Magalia Community Church.
- Yankee Hill Area. The primary emergency travel route in Yankee Hill is SR-70 with connectors including Concow Road, Rim Road, Andy Mountain Road, Deadwood Road, and Pinkston Canyon Road. Assembly points include Camelot Meadow, Crain Park, Concow School, Dome Store, Pines Yankee Hill Hardware, and Golden Feather Seventh-Day Adventist Church.
- Cherokee. Primary emergency travel routes include SR-70 and SR 191 leading to SR-149 to the south. Connector emergency travel routes include Messilla Valley Road, Durham-Pentz Road, Wheelock Road, and Cherokee Road. Spring Valley School is the assembly point in the community.
- East Oroville. The primary emergency travel route is SR-162, with smaller emergency travel routes including Oro Dam Boulevard, Canyon Drive, Oro Quincy Way, Foothill Boulevard, Lower Wyandote Road, Oro Bangor Highway, Mount Ida Road, Miners Ranch Road, and Forbestown Road. The assembly point in this community is the Gold Country Casino.
- Bangor. Primary emergency travel routes in the Bangor community include Forbestown Road, Oliver Highway, Mount Ida Road, Miners Ranch Road, Foothill Boulevard, Oro Bangor Highway, Robinson Mill Road, La Porte Road, and Los Verjeles Road. Bangor Community Hall is the assembly point.
- Palermo. Primary emergency travel routes are SR-70 and SR-162, with smaller routes consisting of several arterial roadways within the community. Assembly points include Palermo School and Feather Falls Casino.

Upper Ridge Community Plan Area

As shown in Figure 5.18-4, the Upper Ridge community is within the SRA where CAL FIRE has responsibility for wildfire protection, with pockets of the community within the FRA (CAL FIRE 2007). Nearly all of the community is within a Very High Fire Hazard Severity Zone, with a small portion along Nimshew Road within the High Fire Hazard Severity Zone. The Upper Ridge community also lies completely within the Butte County WUI due to the mix of urban development with a brush- and timber-covered area (Butte County 2019).

Wildfire History

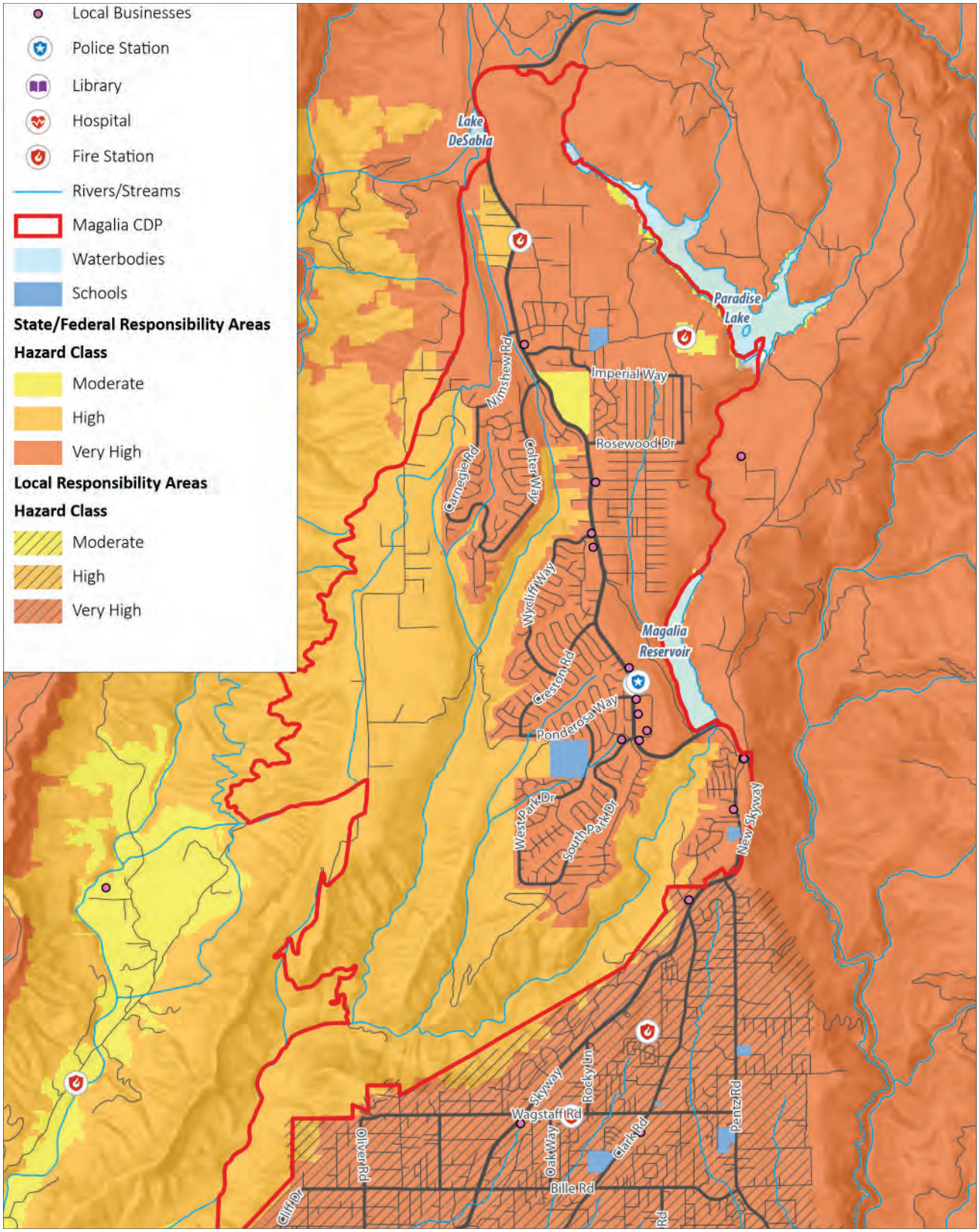
As shown in Figure 5.18-5, the Camp Fire in 2018 is the only historic fire to burn through the Upper Ridge community between 1878 and 2021. The Camp Fire burned almost 19,000 structures, destroyed over 11,000 houses, and caused 85 fatalities within the Town of Paradise and the Upper Ridge community (Siegler 2019). Within the Upper Ridge community, including the Old Magalia, Lower Pines, Nimshew, and

Central Skyway neighborhoods were worst hit by the Camp Fire, with hundreds of homes and commercial buildings destroyed. Several fires, including the North Complex Fire in 2020, BTU Lightning Complex in 2008, Humboldt Fire in 2008, Doe Mill Fire in 1999, and Bidwell Fire in 1984 have also burned within close proximity to the community.

Factors Influencing Wildfire

The following list summarizes the factors influencing wildfire on the Upper Ridge:

- Weather. Similar to other areas in Butte County, the Upper Ridge has a Mediterranean climate, with hot dry summers and cool winters with precipitation. Due to the elevation of the Upper Ridge, precipitation falls as both rain and snow. The Upper Ridge is subject to hot, dry easterly winds in the summer and fall, creating low humidity conditions that can spark wildfires and cause them to quickly spread.
- Fuel. The Upper Ridge community lies within a largely forested area consisting of ponderosa pine, blue oak-foothill pine, mixed chaparral, montane hardwood, Sierra mixed conifer, montane hardwood-conifer, and Douglas fir (California Board of Forestry and Fire Protection 2019).
- Topography. Topography on the Upper Ridge ranges from gentle to steeply sloped. A large portion of the community is on a generally flat area surrounded by canyons carved out by creeks, rivers, and canals, including:
    - Little Butte Creek on the eastern edge of the community, connecting Paradise Lake and Magalia Reservoir.
    - Middle Butte Creek runs through the southern-central portion of the community.
    - Butte Creek runs directly west of the community.
    - The Butte Creek Canal and the Upper Centerville Canal also run through the western portion of the community.
- Human Actions. Historically, human actions that have caused wildfires on the Upper Ridge include electricity equipment malfunction and arson. However, similar to other areas of Butte County, wildfires are primarily ignited by human action and lightning, as described above.
- Climate Change. Warmer temperatures, an increase in drought conditions, and forestry and ecological pests and diseases due to climate change will likely create more fuel for fires on the Upper Ridge, leading to a greater chance that a spark will grow into a potentially dangerous blaze. Climate change is also expected to extend the fire season throughout much (or even all) of the year, lining up with the periods of easterly winds in the fall. In the Upper Ridge community, fire activity is projected to increase from 252 annual acres burned historically, to 371 annual acres burned by midcentury, and 593 annual acres burned by end of the century (CEC 2021).



Source: PlaceWorks, 2021

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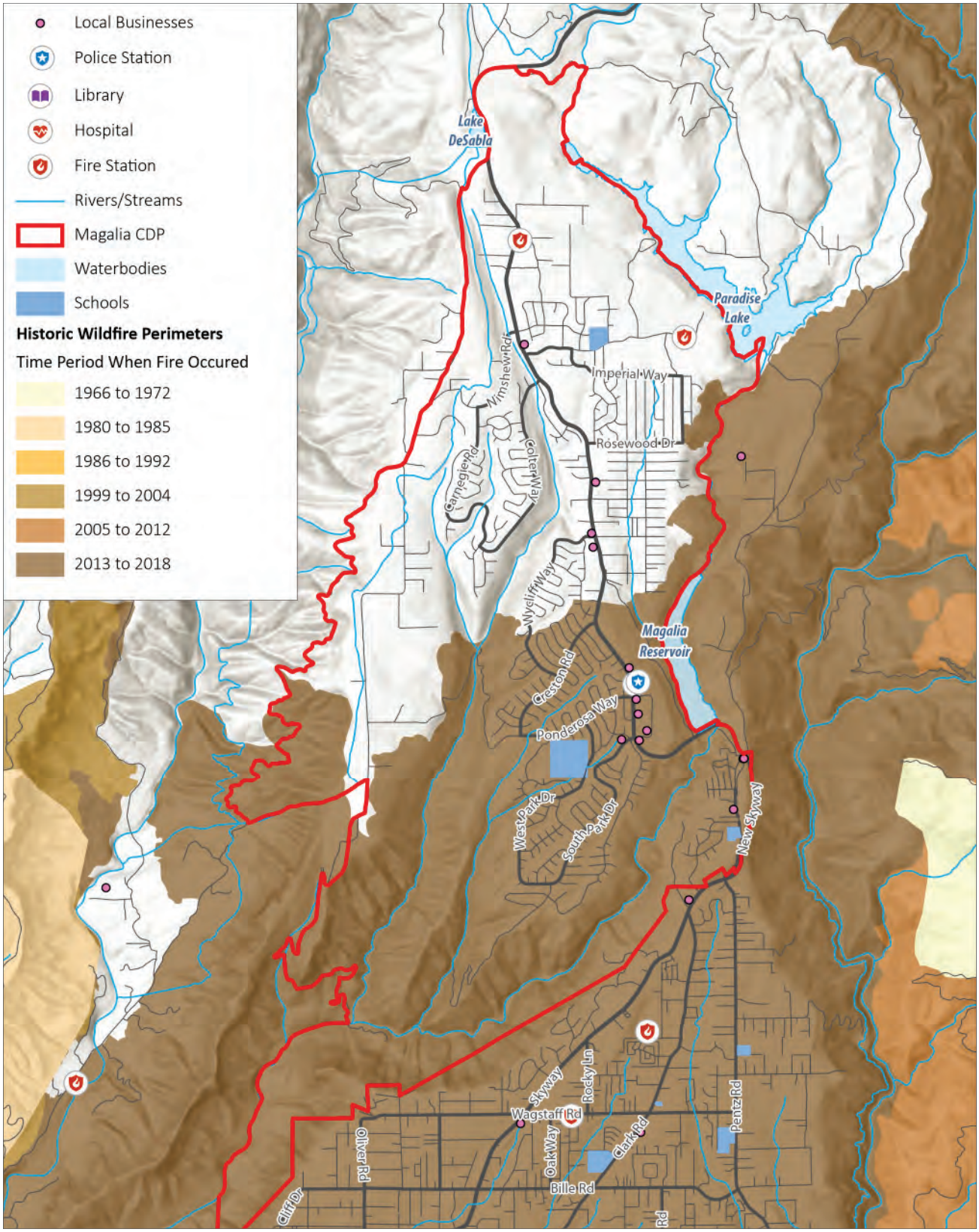
Scale (Miles)

Figure 5.18-4
Fire Hazard Severity Zones on the Upper Ridge



Source: PlaceWorks, 2021

Figure 5.18-5
Historic Wildfire Perimeters on the Upper Ridge

Fire Protection Resources

The BCFD provides fire protection and management services to the Upper Ridge community. Two fire stations (#33 and #31) are located at 14164 Skyway and 15286 Skyway, respectively. Station 31 is a Butte County volunteer-staffed fire station staffed only during portions of the year. Station 33 is a full-time career staffed fire station that includes two fire engines, one fire captain, two fire apparatus engineers, and three firefighters. The station responds to approximately 1,600 calls for service every year, protects the rural areas around Magalia, and works closely with Station 31 volunteers (Butte County 2022b).

Evacuation and Access

The main evacuation route on the Upper Ridge is Skyway, a County-designated emergency travel route, which runs through the community continuing southwest through Paradise to connect with SR-99 south of Chico. Skyway offers one travel lane in each direction with narrow or no shoulders, and it has a center turn lane in much of the southern half of the community. In Paradise, Skyway expands to two travel lanes in each direction, providing greater capacity, except for a 0.5-mile segment within the Paradise downtown commercial district that was reduced to two lanes in a 2015 "road diet" project. Magalia and Paradise Pines community members can also use Skyway to connect with Clark Road, Neal Road, and Pentz Road. These roads, which are also designated emergency travel routes, can serve as alternate evacuation routes, allowing community members on the Upper Ridge to reach Chico, Oroville, or points beyond.

Heading north from the study area, Skyway continues through Stirling City and then northwest to Butte Meadows and SR-32, which leads down into Chico. It is approximately 23 miles from Magalia to Butte Meadows and another 33 miles to Chico. This road (also known as Upper Skyway or Forest Highway 171) has been improved recently but does not remain open all winter. Centerville Road is another route down to the valley for residents on the west side of the Upper Ride. It is about 18 miles to Chico, but this road winds significantly and can be difficult to use, with no guardrails and sinkholes in various places. For these reasons, the County does not list Centerville Road as a recommended evacuation route.

In a small-scale emergency, community members may be safe by evacuating to another neighborhood or to nearby adjacent areas. Parks, open space, businesses, churches, and schools can provide safe refuge areas to gather in an emergency. There are two designated emergency assembly points on the Upper Ridge: Pine Ridge School and Magalia Community Church. In more-severe emergencies, such as a large wildfire, community members would likely need to evacuate to Chico, Oroville, or points beyond. Evacuations would most likely be toward the south and southwest, although under some circumstances, it may make sense for community members to evacuate north along Skyway toward Butte Meadows.

Under a major emergency event, most or all of the households in Magalia and Paradise Pines may need to evacuate in a relatively short timeframe. The evacuation routes in and around the study area can accommodate different volumes of vehicles per hour, with Skyway having the highest capacity. Table 5.18-2 shows the estimated maximum capacity of these evacuation routes.

TABLE 5.18-2 ESTIMATED MAXIMUM CAPACITY OF MAGALIA/PARADISE PINES EVACUATION ROUTES

Evacuation Route	Road Type	Estimated Maximum Capacity (Vehicles Per Hour) [A]
Skyway	4-lane high capacity/limited access expressway/multi-lane highway	3,281 to 3,560
▪ Honey Run Road (Chico) to Pearson Road (Paradise)	2-lane arterial [b]	1,761 to 1,870
▪ Pearson Road to Elliot Road	4-lane arterial, undivided	2,741 to 2,890
▪ Elliot Road to Bille Road	2-lane arterial	1,761 to 1,870
▪ North of Bille Road	2-lane arterial	1,761 to 1,870
Clark Road	2-lane arterial	1,761 to 1,870
Neal Road	2-lane arterial	1,761 to 1,870
Pentz Road	2-lane high-capacity/limited access expressway/multi-lane highway	3,281 to 3,560

Notes:
a. The range for Level of Service E, defined as "operating conditions at or near capacity level."
b. This segment was reduced from four to two travel lanes in 2015.
Sources: Butte County General Plan 2030 Environmental Impact Report, Tables 4.13-2 and 4.13-4.
Butte County. 2021. *Upper Ridge Community Plan Hazards and Safety Analysis*.

5.18.2 STANDARDS OF SIGNIFICANCE

Pursuant to Appendix G, Environmental Checklist Form, of the California Environmental Quality Act (CEQA) Guidelines, implementation of the proposed project, if located in or near SRAs or lands classified as Very High Fire Hazard Severity Zones, would result in a significant wildfire impact if it would:

1. Substantially impair an adopted emergency response plan or emergency evacuation plan.
2. 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.
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.
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.
5. In combination with past, present, and reasonably foreseeable projects, result in cumulative impacts with respect to wildfire.

5.18.3 PROPOSED GENERAL PLAN POLICIES

The following are relevant policies of the Butte County General Plan Update, which may reduce impacts from wildfire as a result of implementation of the proposed project.

Health and Safety Element

- HS-P2.4: Development projects on lands within the 100-year flood zone, as identified on the most current available maps from FEMA (the most current available map at the time of the publication of General Plan 2040 is shown on Figure HS-1), shall be allowed only if the applicant demonstrates that it will not:
    - Create danger to life and property due to increased flood heights or velocities caused by excavation, fill, roads, and intended use.
    - Create difficult emergency vehicle access in times of flood.
    - Create a safety hazard due to the height, velocity, duration, rate of rise and sediment transport of the flood waters expected at the site.
    - Create excessive costs in providing governmental services during and after flood conditions, including maintenance and repair of public facilities.
    - Interfere with the existing water conveyance capacity of the floodway.
    - Substantially increase erosion and/or sedimentation.
    - Require significant storage of material or any substantial grading or substantial placement of fill that is not approved by the County through a development agreement, discretionary permit, or other discretionary entitlement; a ministerial permit that would result in the construction of a new residence; or a tentative map or parcel map.
    - Place septic tank systems in areas that will be flooded, causing overflow of the system and/or contamination of water supplies.
    - Conflict with the provisions of the applicable requirements of Government Code Sections 65865.5, 65962, or 66474.5.
- HS-P3.1: Watersheds shall be managed to minimize flooding by minimizing impermeable surfaces, retaining or detaining stormwater, and controlling erosion.
- HS-P3.2: Applicants for new development projects shall provide plans detailing existing drainage conditions and specifying how runoff will be detained or retained on-site and/or conveyed to the nearest drainage facility and shall provide that there shall be no increase in the peak flow runoff to said channel or facility.
- HS-P3.3: All development projects shall include stormwater control measures and site design features that prevent any increase in the peak flow runoff to existing drainage facilities.

- HS-P3.5: The County shall require redevelopment after flooding to meet current California Building Standards Code and flood-related Code of Ordinances requirements to reduce future vulnerabilities to flood hazards through site preparation, layout design, and flood-proofing building design and materials.
- HS-P7.1: Site-specific geotechnical investigations shall be required to assess landslide potential for private development and public facilities projects in areas rated "Moderate to High" and "High" in Figure HS 7 or the most current available mapping.
- HS-P7.2: The County shall coordinate with the California Department of Forestry and Fire Protection (CAL FIRE), United States Forest Service (USFS), park districts, and other agencies to take emergency action, as needed, to stabilize burned slopes and reduce erosion and runoff in burn areas above developed areas, important infrastructure, or key transportation corridors as soon as possible after a wildfire event.
- HS-P7.3: The County discourages new development in landslide or liquefaction-prone areas.
- HS-P11.2: Create wildfire-resistant communities by supporting the implementation of community wildfire protection plans and wildfire fuel load reduction measures in coordination with the appropriate government, community group, or non-profit organization and California Department of Forestry and Fire Protection (CAL FIRE).
- HS-P11.3: The County shall prioritize and fund fuel-reduction projects in the State Responsibility Area covered by the California Vegetation Treatment Program (CalVTP).
- HS-P11.5: New development projects shall meet current County building and fire requirements and California Fire Safe Regulations.
- HS-P11.6: New development projects in High or Very High Fire Hazard Severity Zones or the Wildland-Urban Interface, as shown in Figure HS-11 or the most current data available from CAL FIRE, shall prepare a Fire Protection Plan for adequate emergency water flow, emergency vehicle access, visible addressing and signage, evacuation routes, fuel management, defensible space, fire safe building construction, and wildfire preparedness.
- HS-P11.7: The County shall encourage the use of voluntary conservation easements or the voluntary transfer of development rights in undeveloped wildland areas within High and Very High Fire Hazard Severity Zones and the Wildland-Urban Interface, as shown in Figure HS-11 or the most current data available from CAL FIRE.
- HS-P11.8: New development shall not diminish fire protection and prevention services, including the inspection and enforcement of vegetation and fire-safe standards.
- HS-P12.1: Regulations regarding fire-safe vegetation clearance and maintenance around structures, including non-conforming development, and infrastructure, including along driveways and private roads, shall be maintained and enforced.
- HS-P12.2: Fuel breaks shall be required along the edge of developed areas, including non-conforming development, in Local Responsibility and State Responsibility Areas, as well as the Wildland-Urban Interface, as shown in Figure HS-11 and HS-12 or the most current data available from CAL FIRE.

- HS-P12.3: Fire-resistant native landscaping and fuel breaks shall be required in residential areas.
- HS-P12.5: New development, significant retrofits, and reconstruction projects in Local Responsibility and State Responsibility Areas, and the Wildland-Urban Interface, shall be consistent with the California Building Standards Code, California Fire Code, and California Fire Safe Regulation requirements.
- HS-P12.6: All development projects in High or Very High Fire Hazard Severity Zones shall provide adequate water conveyance infrastructure to meet daily and fire-flow requirements.
- HS-P12.7: Ensure that new development has adequate fire protection services, including adequate water supplies for fire suppression.
- HS-P13.1: New development in High or Very High Fire Hazard Severity Zones and the Wildland-Urban Interface, as shown in Figure HS-11 or the most current data available from CAL FIRE, shall identify at least two points of access for day-to-day access and evacuation purposes and make improvements to develop, upgrade, and maintain these routes to ensure adequate capacity of evacuation routes.
- HS-P14.5: The County shall require redevelopment after wildfires to meet current California Building Standards Code, California Fire Code, and California Fire Safe Regulations to reduce future vulnerabilities to fire hazards through site preparation, layout design, fire-resistant landscaping, and fire-retarding building design and materials.
- HS-P14.7: After a wildfire, the County shall coordinate with local and regional agencies in efforts to protect water quality by stabilizing burned slopes and remediating or treating contaminated surface water or groundwater.
- HS-P16.1: The County shall conduct continuous advance planning to anticipate potential threats and improve emergency response effectiveness, including updating the Emergency Operations Plan regularly and integrating new science for hazardous conditions, emergent threats, and emergency management best practices.
- HS-P16.5: Emergency access routes shall be kept free of traffic impediments.
- HS-P16.7: A variety of real-time technology and other methods for emergency notifications shall be used to ensure residents and visitors receive emergency messages when the power is out and options for safe and expedient response.
- HS-P17.1: The County shall provide alerts about potential, developing, and ongoing emergencies through extensive alert and warning systems, including radio, television, social media, website, email, and telephone that convey information to all residents, in multiple languages and formats, to ensure it is widely accessible.
- HS-P17.2: The County shall ensure residents are able to receive notifications through one or more services.
- HS-P18.1: The County shall coordinate evacuation planning with all county jurisdictions, surrounding counties, and the California Department of Transportation (Caltrans).
- HS-P18.2: The County shall require new development to demonstrate access to adequate evacuation routes during potential hazard events that have capacity for residents, workers, and

visitors to effectively evacuate. Evacuation routes shall demonstrate consistency with the SRA Fire Safe Regulations and Section 4290 of the California Public Resources Code.

- HS-P18.3: Areas identified as evacuation constrained in the Countywide Evacuation Study and/or on Figures HS-15 and HS-16 shall be prioritized for provision of evacuation routes that have capacity for residents, workers, and visitors to evacuate safely are designed consistent with evacuation route standards listed in Policy HS-P18.2.
- HS-P18.4: The County shall work with private, state, and federal property owners to investigate opportunities for private roads to serve as publicly accessible evacuation routes.
- HS-P18.5: The County shall consider funding opportunities, such as special districts, County Service Areas, or other mechanisms, to support the identification and improvement, as applicable, of primary and secondary evacuation routes in accordance with applicable evacuation plans.
- HS-P18.6: The County shall prioritize roadway improvements on evacuation routes to improve emergency evacuation and access functions, where feasible, including paving, regrading, adding passing zones and pull-outs, and clearing vegetation.
- HS-P18.7: Outdoor recreation areas shall incorporate places of refuge and/or markers to support location identification if emergency evacuation assistance is needed.

5.18.4 IMPACT DISCUSSION

The standards of significance listed in Section 5.18.2 apply to projects that are within or near lands within the SRA or lands that are within a Very High Fire Hazard Severity Zone. As shown on Figure 5.18-1, the Butte County General Plan area is within the SRA and a large portion of the Butte County General Plan area is within the WUI. Furthermore, as shown in Figure 15.8-4, the URCP area is in a SRA. Therefore, the standards of significance in Section 5.18.2 apply to the proposed project.

WILD-1	If located in or near SRAs or lands classified as Very High Fire Hazard Severity Zones, the project would not substantially impair an adopted emergency response plan or emergency evacuation plan.

The proposed project would result in a significant impact if it would substantially impair an adopted emergency response plan or emergency evacuation plan. The Butte County General Plan area and URCP area fall within the emergency plans of several agencies. Adopted emergency response plans and emergency evacuation plans include those discussed under Section 5.18.1.1, *Regulatory Framework*, such as the Butte County Community Evacuation Plans and Maps, the Butte County EOP, and the Butte County Community Wildfire Protection Plan.

General Plan 2040

As discussed in Chapter 3, *Project Description*, of this Draft Environmental Impact Report (EIR), the proposed project would increase development potential in the Upper Ridge community by redesignating 28 parcels from Retail and Office to Mixed-Use land uses, increasing residential density by 6 units to 20 units per acre. This change is evaluated in detail below. Other updates to the Butte County General Plan include updates

to existing goals, policies, and programs, which would not increase future development potential in wildfire-prone areas. Buildout under the proposed project would not result in substantial changes to the circulation patterns or emergency access routes in the county.

As described under Section 5.18.1.1, *Regulatory Framework*, Butte County has adopted a set of Community Evacuation Plans and Maps for communities throughout the county, especially those in wildfire-prone areas. These plans and maps were created as part of implementing the Community Wildfire Protection Plan and are intended to inform residents, visitors, and community members of emergency travel routes, preparedness activities, and the availability of emergency communication methods in the event an evacuation is needed. The proposed project would not necessitate changes to these plans or maps. Any potential development under the proposed General Plan 2040 would be required to integrate these plans and maps as necessary into development to continue their facilitation in evacuation for the population in Butte County wildfire-prone areas. Additionally, Health and Safety Element Action HS-A18.3 requires updating these maps and making them readily available to all community members. Therefore, General Plan 2040 would not conflict with or impair the Community Evacuation Plans and Maps.

The Butte County EOP, Population Protection Annex, provides procedures for planning for and implementing evacuations, which is facilitated by the Director of Emergency Management. This plan acknowledges that the evacuation of large numbers of people from vulnerable areas may stress the limited capabilities of the roadways and personnel in the county, which may increase the amount of time needed to complete an evacuation and trigger mutual-aid resources. This plan also assumes that limited evacuation road networks may necessitate evacuees to be directed to refuges-of-last-resort if evacuations are terminated prior to full completion. The Health and Safety Element of the General Plan 2040 includes several policies and actions to prepare for and facilitate evacuations caused by wildfires and other hazards, including:

- Policy HS-P13.1: New development in High or Very High Fire Hazard Severity Zones and the Wildland-Urban Interface, as shown in Figure HS-11 or the most current data available from CAL FIRE, shall identify at least two points of access for day-to-day access and evacuation purposes and make improvements to develop, upgrade, and maintain these routes to ensure adequate capacity of evacuation routes.
- Action HS-A13.1: Maintain and update primary and alternative evacuation routes for communities in foothill and mountain areas with high fire hazard potential.
- Action HS-A13.3: Develop a funding mechanism to improve connectivity of evacuation routes and to ensure adequate capacity during emergencies.
- Policy HS-P-16.5: Emergency access routes shall be kept free of traffic impediments.
- Policy HS-P16.7: A variety of real-time technology and other methods for emergency notifications shall be used to ensure residents and visitors receive emergency messages when the power is out and options for safe and expedient response.
- Policy HS-P17.1: The County shall provide alerts about potential, developing, and ongoing emergencies through extensive alert and warning systems, including radio, television, social media, website, email, and telephone that convey information to all residents, in multiple languages and formats, to ensure it is widely accessible.

- Policy HS-P17.2: The County shall ensure residents are able to receive notifications through one or more services.
- Action HS-A17.1: Seek funding to develop community awareness and education programs for citizens that describe procedures and evacuation routes to be followed in the event of a disaster.
- Action HS-A17.2: Conduct surveys and interviews to understand how emergency information is currently received and identify barriers to accessing information so that feasible and accessible resources, services, and systems can be developed and provided.
- Action HS-A17.3: Develop a dynamic evacuation guidance and direction system that is mobile device application-based with a connection to the phone alert system to provide real-time evacuation guidance based on road capacity and the location of the hazard.
- Policy HS-P18.1: The County shall coordinate evacuation planning with all county jurisdictions, surrounding counties, and the California Department of Transportation (Caltrans).
- Policy HS-P18.2: The County shall require new development to demonstrate access to adequate evacuation routes during potential hazard events that have capacity for residents, workers, and visitors to effectively evacuate. Evacuation routes shall demonstrate consistency with the SRA Fire Safe Regulations and Section 4290 of the California Public Resources Code.
- Policy HS-P18.3: Areas identified as evacuation constrained in the Countywide Evacuation Study and/or on Figures HS-15 and HS-16 shall be prioritized for provision of evacuation routes that have capacity for residents, workers, and visitors to evacuate safely are designed consistent with evacuation route standards listed in Policy HS-P18.2.
- Policy HS-P18.4: The County shall work with private, state, and federal property owners to investigate opportunities for private roads to serve as publicly accessible evacuation routes.
- Policy HS-P18.5: The County shall consider funding opportunities, such as special districts, County Service Areas, or other mechanisms, to support the identification and improvement, as applicable, of primary and secondary evacuation routes in accordance with applicable evacuation plans.
- Policy HS-P18.6: The County shall prioritize roadway improvements on evacuation routes to improve emergency evacuation and access functions, where feasible, including paving, regrading, adding passing zones and pull-outs, and clearing vegetation.
- Policy HS-P18.7: Outdoor recreation areas shall incorporate places of refuge and/or markers to support location identification if emergency evacuation assistance is needed.
- Action HS-A18.1: Plan for roadway connections to convert dead-end roads into continuous routes where feasible, providing access for both every day and emergency functions.
- Action HS-A18.2: Evaluate the capacity of evacuation routes for the number of residents and visitors that may need to evacuate and implement recommended improvements.
- Action HS-A18.4: Conduct community-level virtual evacuation exercises.
- Action HS-A18.5: Establish an evacuation planning program to assist people with access and functional needs during evacuation events.

- Action HS-A18.6: Create and distribute educational materials on the importance, availability, and requirements of evacuation routes for those living in High or Very High Fire Hazard Severity Zones, the Wildland-Urban Interface, and 100-/200-/500-year floodplains.

Furthermore, the Health and Safety Element would include Policy HS-16.1, which is intended to facilitate updates to the EOP regularly, integrating new science for hazardous conditions and emergency management best practices where feasible. Implementation of these policies and actions would increase the effectiveness of the EOP, Population Protection Annex, and therefore would not impair or conflict with the plan.

An impact to emergency operations and evacuation under the proposed General Plan 2040 could occur from construction of potential future development projects if they were to result in temporary road closures, and therefore, potentially altering evacuation routes. Potential future development in the county would also be required to comply with SRA Fire Safe Regulations, the California Building Code, the California Fire Code, and the Butte County Code of Ordinances, which have maximum requirements for lengths of single-access roads, minimum widths of roadways, and vegetation fuel management around roadways. However, development of the potential future projects could potentially interfere with Butte County's and other State or federal agencies' emergency response and evacuation plans through construction-related road closures. These would be limited to the duration of the construction period and direct impacts of construction would be evaluated during the project environmental review process or permit review process by BCFD and/or CAL FIRE; however, a temporary impact could still occur on single-access roadways or evacuation-constrained areas where there is limited ingress and egress.

Additionally, Butte County is currently conducting a Community Emergency Evacuation Analysis, which will identify the capacity, safety, and feasibility of evacuation routes in compliance with Assembly Bill (AB) 747 and California Government Code Section 65302.15. This study is estimated to be completed in April 2023, which will be used to update the evacuation plan maps by the end of 2023. The proposed General Plan 2040 Health and Safety Element contains the following action for conducting this study in wildfire-prone areas to be consistent with the provisions in AB 747.

- Action HS-A13.2: Conduct a study on the capacity, feasibility, and safety of evacuation routes for areas in Local Responsibility and State Responsibility Areas, as well as the Wildland-Urban Interface. Once the routes are evaluated through the study, seek funding to implement the necessary improvements to the routes.

As discussed in Chapter 3, *Project Description*, the proposed project includes updates to existing goals, policies, and programs, and potential future development or redevelopment would occur in existing unincorporated communities. All future development, regardless of whether it includes new development or redevelopment, is required to comply with adopted local, regional, and State plans and regulations addressing emergency access, response, and evacuation. However, even with these requirements, construction of new development or redevelopment could cause a temporary impairment of an evacuation route due to road closure, and therefore impacts would be *significant*.

Level of Significance Before Mitigation: WILD-1 would be potentially significant.

Impact WILD-1a: Construction of future potential development under implementation of the General Plan 2040 could result in temporary road closures that impair evacuation routes.

Mitigation Measures

Mitigation Measure WILD-1: Project applicants for development in the Upper Ridge Community Plan area shall prepare a Traffic Control Plan to ensure that construction equipment or activities do not block roadways during the construction period. The Traffic Control Plan shall be submitted to the Butte County Fire Department and Sheriff's Office for review and approval prior to approval of building permits.

Level of Significance After Mitigation: WILD-1 would be less than significant.

Upper Ridge Community Plan

As discussed in Chapter 3, *Project Description*, the URCP would increase development potential in the Upper Ridge community with 28 parcels redesignated from Retail and Office to Mixed-Use land uses in the Old Magalia and Magalia Center neighborhoods. Potential future development under the proposed project would add additional residents to the Upper Ridge Community and result in slightly more cars on the road during an evacuation event. However, the URCP includes strategies to increase access to and from the Upper Ridge, ultimately improving evacuation capacity and staying consistent with the Evacuations Plans and Maps. As shown in Figure 5.18-6, the URCP includes seven different methods for improving evacuation from the community:

- Widen Skyway where it crosses Magalia Dam.
- Pave the route north of Lake De Sabla connecting to SR-32 via Doe Mill Road and Garland Road.
- Provide a bypass of the Magalia Reservoir Dam by improving Coutolenc Road and Hupp Coutolenc Road around Paradise Lake.
- Improve Centerville Road leading southwest from Nimshew Road to Honey Run Road into Chico.
- Extend Athens Way down to Skyway in the Town of Paradise, crossing over Little Butte Creek in the process.
- Improve existing Ponderosa Way to allow vehicles connecting from Paradise Pines to Nimshew Road.
- Expand some dead-end roads in neighborhoods such as Fir Haven to allow emergency ingress and egress routes.

These recommended improvements would reduce the number of cars travelling south over the Magalia Dam on Skyway, thereby reducing the potential for a bottleneck at the Magalia Dam during an evacuation. Additionally, the URCP provides three strategies for implementing these improvements and making evacuation routes known to community residents:

- **Strategy CIR-1.1:** Form an Evacuation Taskforce that could weigh the constraints and benefits of the five potential additional evacuation routes described above and prioritize one or two proposed routes to be improved in the near term.

- Strategy CIR-1.2: Prioritize near-term roadway improvements on existing evacuation routes to improve their emergency function (e.g., widening, adding passing zones on narrow routes, and adding pull-outs). These roadways include, but are not limited to:
    - Add new roadway connections, where feasible and beneficial, to convert dead-end roads to continuous routes, providing improved access for both every day and emergency functions.
    - Work with property owners to investigate establishing certain private roads as publicly accessible evacuation routes to provide connections to primary evacuation routes.
- Strategy CIR-1.3: Develop a comprehensive, well-signed evacuation network with an updated evacuation map that shows evacuation routes on public roadways as well as accessible private roadways.

These recommendations would be consistent with the current Evacuation Plans and Maps and would not impair the implementation of this plan for the Upper Ridge community.

As described previously, the Butte County EOP, Population Protection Annex, provides procedures for planning for and implementing evacuations. The URCP includes several disaster response strategies to prepare for and facilitate evacuations caused by wildfires, including:

- Strategy HS-2.1: Develop a comprehensive emergency communications program and procedures for emergency events (e.g., fire, flood) and evacuation notifications to ensure residents and businesses on the Upper Ridge can respond adequately to hazardous events.
- Strategy HS-2.3: Develop an emergency preparedness education program for residents and visitors on the Upper Ridge to help them prepare for and respond to evacuations, Public Safety Power Shutoffs, and other hazardous events.
- Strategy HS-2.4: Upgrade existing assembly points to refuge areas and designate new refuge areas to create a set of equitably located areas that provide area space for residents and visitors to shelter when evacuation is not safe or possible during a hazardous event.

Implementation of these strategies would increase the effectiveness of the EOP, Population Protection Annex, and allow residents and visitors to find refuges-of-last-resort if unable to evacuate as stated in the EOP, and therefore would not impair or conflict with the plan.

An impact to emergency operations and evacuation under the proposed URCP could occur from construction of potential future development projects if they were to result in temporary road closures along Lakeridge Circle or Old Skyway, and therefore, potentially altering evacuation routes. Lakeridge Circle has multiple access points; however, Old Skyway is a two-lane roadway and is the only evacuation route for the Old Magalia neighborhood. Potential future development of these sites would also be required to comply with SRA Fire Safe Regulations, the California Building Code, the California Fire Code, and the Butte County Code or Ordinances, which have requirements for access roads and vegetation fuel management around roadways. However, development on Old Skyway could temporarily interfere with emergency response and evacuation plans through construction-related road closures. These would be limited to the duration of the construction period and direct impacts of construction would be evaluated during the project environmental review process or permit review process by BCFD and/or CAL FIRE; however, a

temporary impact could still occur on single-access roadways or evacuation-constrained areas where there is limited ingress and egress. Therefore, impacts would be potentially significant.

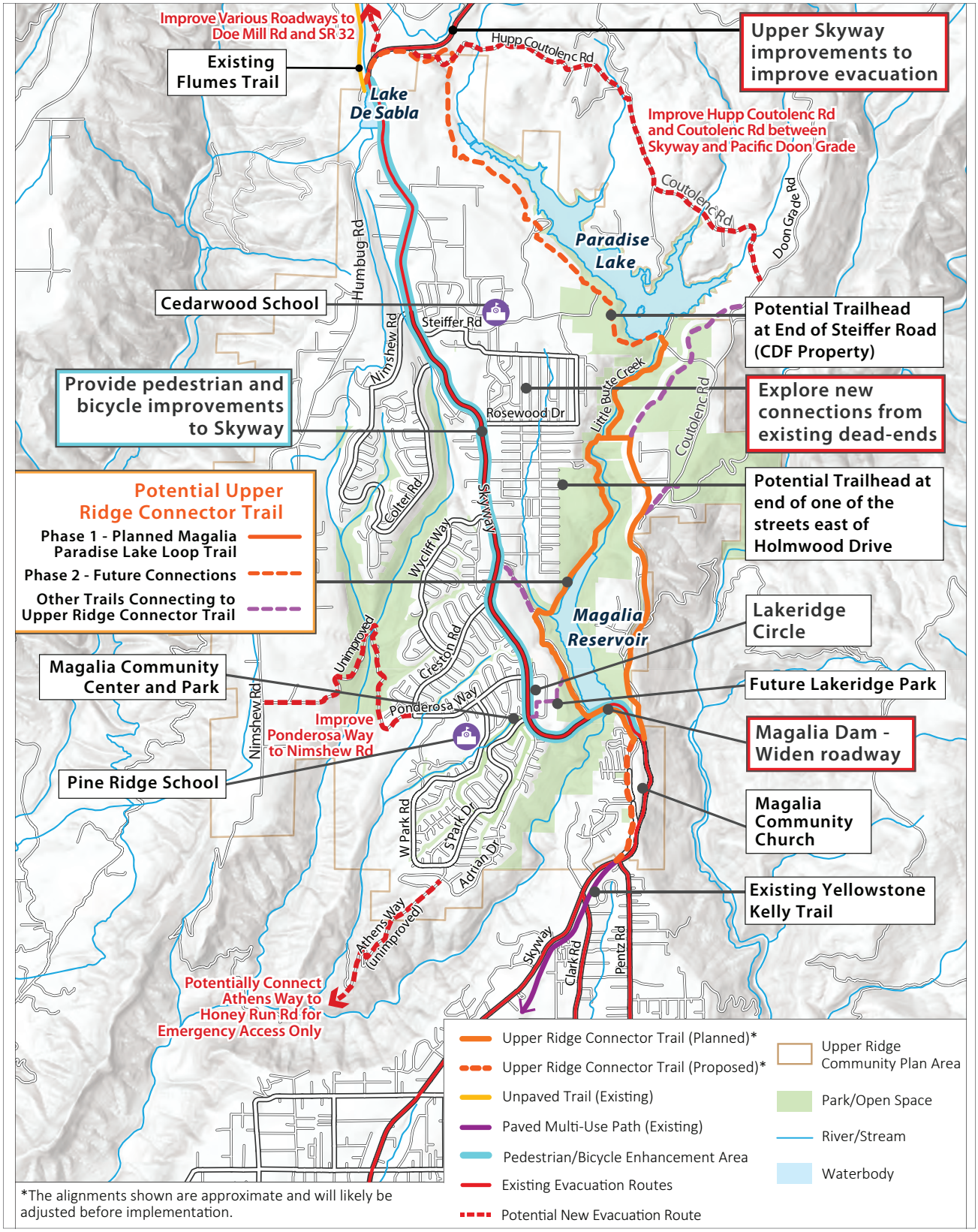
Level of Significance Before Mitigation: WILD-1 would be potentially significant.

Impact WILD-1b: Construction of future potential development under implementation of the URCP could result in temporary road closures that impair evacuation routes on the Upper Ridge.

Mitigation Measures

Implement Mitigation Measure WILD-1.

Level of Significance After Mitigation: WILD-1 would be less than significant.



Source: PlaceWorks, 2021

0 1
Scale (Miles)

Figure 5.18-6
Evacuation and Multimodal Circulation Recommendations on the Upper Ridge

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WILD-2	If located in or near SRAs or lands classified as Very High Fire Hazard Severity Zones, the project, due to slope, prevailing winds, and other factors, could exacerbate wildfire risks, and thereby expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of wildfire.

General Plan 2040

As discussed in Section 5.18.1.2, *Existing Conditions*, Butte County is prone to easterly winds in the summer and fall that are erratic in movement and have high speeds. These winds are often accompanied by low humidity and can shift suddenly due to temperature changes and interactions with steep slopes. This creates dangerous conditions by enabling and spreading wildfires during the drier months of the year. However, implementation of the General Plan 2040 would not change or affect wind patterns in the county, but wildfires and wildfire smoke hazards could be spread by prevailing or easterly winds.

Section 5.18.1.1, *Regulatory Framework*, describes plans, policies, regulations, and procedures that help to reduce wildfire risks. The 2018 Strategic Fire Plan for California, 2021 California Wildfire and Forest Resilience Action Plan, Fire Risk Reduction Community designation, Butte County LHMP, Butte County Community Wildfire Protection Plan, and Butte County EOP are intended to reduce wildfire hazards and response to these hazards on a statewide and regional scale. In addition, the Butte County Air Quality Management District and Butte County Public Health Department provide air quality alerts, advisories, and resources for an interactive online map to view current air quality conditions in the region. Furthermore, the proposed General Plan 2040 Health and Safety Element includes Action HS-A12.1, which requires the County to explore funding opportunities to retrofit ventilation systems in public or community buildings to provide refuge for residents and visitors during wildfires or periods of unhealthy air quality caused by smoke from wildfires. However, future potential development under the General Plan 2040 in eastern Butte County could exacerbate wildfire risks by adding people to wildfire-prone areas, therefore exposing people in the county and surrounding jurisdictions to pollutant concentrations from a wildfire. A wildfire combined with easterly winds could expose residents in the county to the uncontrolled spread of wildfire.

As discussed in Section 5.18.1.2, *Existing Conditions*, the topography in wildfire-prone eastern Butte County is carved out by rivers and creeks that have created deep canyons and very steep slopes. Construction of potential future development in eastern Butte County may require grading and site preparation activities that could change the slope of a single parcel or site. While some development would occur in western Butte County where the area is generally flat, development and redevelopment in eastern Butte County could occur where topography is steeper. Potential future development and redevelopment could occur in existing communities throughout the county, including the eastern county, although the precise location is unknown, and therefore it is possible that development could occur in areas with steep slopes or near sloped areas. In addition, the proposed General Plan 2040 would increase buildout potential in the Upper Ridge Community, which is evaluated below.

All potential future development within Butte County would be required to comply with the California Building Standards Code, SRA Fire Safe Regulations, and Butte County Code of Ordinance Grading requirements, which include standards to minimize the ignition and spread of wildfire due to slopes. Additionally, the proposed General Plan 2040 includes Policies HS-P12.5 and HS-P14.5, which require new

development within wildfire-prone areas and redevelopment after wildfires to meet California Building Standards Code, California Fire Code, and SRA Fire Safe Regulations to reduce future vulnerabilities to fire hazards through site preparation, layout design, fire-resistant landscaping, and fire-retarding building design and materials. Furthermore, Policy HS-P12.2 requires fuel breaks along the edge of developed areas, including non-conforming development, which could limit the uncontrolled spread of a wildfire from one neighborhood to another due to slope. Wildfire smoke could potentially travel up a slope during a wildfire. Therefore, even with existing regulatory requirements and proposed Health and Safety Element policies and actions, potential future development under the proposed General Plan 2040 could expose people to the uncontrolled spread of wildfire or pollutant concentrations due to slope.

Other factors, such as vegetation, have the potential to exacerbate wildfire risks. The heavily forested areas of eastern Butte County are easily ignited, especially during late summer and fall when temperatures are high, relative humidity is low, and winds are high. During these conditions, forests and brush vegetation can dry out, particularly in areas with unirrigated vegetation, becoming extremely flammable and increasing wildfire risks.

As described in Section 5.18.1.1, *Regulatory Framework*, the Butte County LHMP and Community Wildfire Protection Plan contain several vegetation management, fuel reduction, fuel break, chipper programs, and projects to reduce the uncontrolled spread of wildfire due to vegetation. Additionally, all potential future development within wildfire-prone areas in Butte County would be required to comply with SRA Fire Safe Regulations, Public Resources Code Section 4291, the California Fire Code, and the Butte County Code of Ordinances Chapter 38A (Fire Prevention and Protection). These regulations have specific requirements for new and existing development to create defensible space and extensive fuel reduction within 100 feet of a structure, an ember-resistant zone within 5 feet of a structure, and the overall maintenance of properties to reduce the risk of uncontrolled fires or the spread of fires to other properties. Furthermore, the proposed General Plan 2040 contains policies and actions for existing, new, and redevelopment projects that integrate with the LHMP, Community Wildfire Protection Plan, and other State and regional regulations to reduce wildfire risks associated with vegetation.

- Policy HS-P11.2: Create wildfire-resistant communities by supporting the implementation of community wildfire protection plans and wildfire fuel load reduction measures in coordination with the appropriate government, community group, or non-profit organization and California Department of Forestry and Fire Protection (CAL FIRE).
- Policy HS-P11.3: The County shall prioritize and fund fuel-reduction projects in the State Responsibility Area covered by the California Vegetation Treatment Program (CalVTP).
- Policy HS-P11.5: New development projects shall meet current County building and fire requirements and California Fire Safe Regulations.
- Policy HS-P11.6: New development projects in High or Very High Fire Hazard Severity Zones or the Wildland-Urban Interface, as shown in Figure HS-11 or the most current data available from CAL FIRE, shall prepare a Fire Protection Plan for adequate emergency water flow, emergency vehicle access, visible addressing and signage, evacuation routes, fuel management, defensible space, fire safe building construction, and wildfire preparedness.
- Policy HS-P11.8: New development shall not diminish fire protection and prevention services, including the inspection and enforcement of vegetation and fire-safe standards.

- Action HS-A11.1: Seek funding to identify and complete roadside fuel reduction projects and maintain necessary clearance zones on critical roads to reduce wildfire risk, increase visibility, and maintain safe evacuation routes. Coordinate with the Butte County Community Wildfire Protection Plan (CWPP).
- Action HS-A11.2: Coordinate with CAL FIRE, USFS, regional park districts, and local tribal representatives to conduct wildland fire prevention activities and programs in new and existing development, such as controlled burning, fuel removal, grazing, defensible space, public and private fire roads, and the maintenance of existing or development of new fuel breaks.
- Action HS-A11.3: Partner with local tribal representatives to learn and incorporate Indigenous fire management practices into the County's fire management procedures.
- Action HS-A11.4: Develop standardized wildfire risk assessment and mitigation procedures for projects within the State Responsibility Area and Very High Fire Hazard Severity Zones.
- Action HS-A11.6: Develop and conduct public outreach and education programs that do the following:
    - Educate public and private landowners about projected high-risk wildfire areas that may increase in severity due to climate change.
    - Support communities within the Wildland-Urban Interface by teaching property owners about defensible space, vegetation management, and fire-safe landscaping practices.
- Action HS-A11.8: Identify funding mechanisms for the inspection and enforcement of vegetation and fire-safe standards in existing and new development.
- Policy HS-P12.1: Regulations regarding fire-safe vegetation clearance and maintenance around structures, including non-conforming development, and infrastructure, including along driveways and private roads, shall be maintained and enforced.
- Policy HS-P12.2: Fuel breaks shall be required along the edge of developed areas, including non-conforming development, in Local Responsibility and State Responsibility Areas, as well as the Wildland-Urban Interface, as shown in Figure HS-11 and HS-12 or the most current data available from CAL FIRE.
- Policy HS-P12.3: Fire-resistant native landscaping and fuel breaks shall be required in residential areas.
- Policy HS-P12.5: New development, significant retrofits, and reconstruction projects in in Local Responsibility and State Responsibility Areas, as well as the Wildland-Urban Interface, shall be consistent with the California Building Standards Code, California Fire Code, and California Fire Safe Regulation requirements.
- Action HS-A12.1: Explore funding opportunities for the following:
    - Retrofitting ventilation systems in public or community buildings to provide refuge for residents and visitors during wildfires of unhealthy air quality caused by smoke from wildfires.

  - Establishing a program to offset the cost of vegetation maintenance for low-income households.
  - Coordinate with Butte County Fire Safe Council and other organizations to conduct ongoing vegetation management and fuels-reduction projects and programs.
  - Supporting financing of vegetation removal within the High and Very High Fire Hazard Severity Zones.
- Action HS-A12.2: Work with developers to establish vegetation management standards, including defensible space around homes that must be maintained by property owners, homeowners' associations, or a special district.
- Action HS-A12.4: Develop guidelines for the creation of fuel breaks in landscape setbacks.
- Policy HS-P14.5: The County shall require redevelopment after wildfires to meet current California Building Standards Code, California Fire Code, and California Fire Safe Regulations to reduce future vulnerabilities to fire hazards through site preparation, layout design, fire-resistant landscaping, and fire-retarding building design and materials.

These policies and actions would ensure that vegetation is properly managed and maintained for wildfire hazard reduction, and that existing development, new development, and redevelopment in forested and brush-covered areas of eastern Butte County would incorporate vegetation fuel-reduction measures. However, even with existing regulatory requirements and proposed Health and Safety Element policies and actions, potential future development under the General Plan 2040 could expose people to the uncontrolled spread of wildfire or pollutant concentrations due to other factors such as vegetation.

Adherence to the above building practices, fire safety regulations, and vegetation fuel management requirements would reduce the potential for exacerbating wildfire risks. However, due to the programmatic nature of this analysis, the unknown details and potential impacts of specific future potential development projects under the General Plan 2040 and the possibility of potential future development being located in wildfire-prone areas, impacts would still be potentially significant.

Level of Significance Before Mitigation: WILD-2 would be potentially significant.

Impact WILD-2a: Development under the proposed General Plan 2040 could include an increase in population, buildings, and infrastructure in eastern Butte County, which is in a SRA, Very High, High, and Moderate Fire Hazard Severity Zones, the WUI, and areas that have historically burned from wildfires. These areas are heavily forested, experience hot, dry easterly winds, and have steep terrain. Development within this area could exacerbate wildfire risks.

Mitigation Measures

As discussed previously, implementation of the proposed General Plan 2040 could increase population, buildings, and infrastructure in wildfire-prone areas. Through General Plan 2040 policies and actions, and mandatory wildfire hazard reduction measures through state regulations, impacts related to exacerbating the risk of pollutant concentrations from wildfire and the uncontrolled spread of wildfire would be reduced, but not to a less-than-significant level. As listed above, the proposed General Plan 2040 contains policies

and actions that require existing development, new, and redevelopment projects to create and maintain fire-safe vegetation around structures and roadways, enforcement of fire-safe standards, and creation of fuel breaks. New development would also be required to prepare Fire Protection Plans. These policies and actions would not increase the number of people, buildings, and infrastructure, but would also not prohibit development under the proposed General Plan 2040; however, they would provide the best wildfire hazard-reduction measures available. Additionally, other mitigating efforts, such as HS-P11.7, include voluntary conservation easements or transfer of development rights in the undeveloped wildland areas that could work to mitigate impacts; however, the only way to fully avoid the wildfire impact from implementation of the proposed General Plan is to not allow development in areas within High and Very High Fire Hazard Severity Zones and the WUI, thereby eliminating the wildfire impact. However, doing so is not feasible or practical as the County has a responsibility to meet other conflicting obligations, including increases in the number and type of housing available in Butte County, redeveloping communities previously burned by wildfires, and maintaining economic drivers such as timber harvesting and outdoor recreation. The County needs to promote both economic development and corresponding residential development, as required by State housing law, within its adopted growth boundaries. While possible forms of mitigation for wildfire risks in the unincorporated county would be implemented by the County through its General Plan 2040 policies and actions, doing so to reduce impacts to a less-than-significant level would be infeasible and inconsistent with County planning goals and objectives. This conclusion does not prevent a finding of less-than-significant impacts at the project level; however, due to potential unknown impacts from future development under the General Plan 2040, impacts at the programmatic level would remain significant and unavoidable.

Level of Significance After Mitigation: WILD-2 would be significant and unavoidable.

Upper Ridge Community Plan

As discussed in Section 5.18.1.2, *Existing Conditions,* the URCP area is subject to hot, dry easterly winds in summer and fall (similar to other areas in Butte County); has topography ranging from generally flat in developed areas to steeply sloped in undeveloped canyon areas; and is in a conifer and hardwood forested area.

Implementation of the URCP would not change or affect wind patterns; however, wildfires and wildfire smoke hazards could be spread by prevailing or easterly winds. As described in the analysis of the General Plan 2040, several State, regional, and local plans, regulations, and projects are in place to reduce wildfire hazards and respond to these hazards on a statewide and regional scale. The Upper Ridge area would also be required to comply with General Plan 2040 Action HS-A12.1, which requires the County to explore funding opportunities to retrofit ventilation systems in public or community buildings to provide refuge for residents and visitors during wildfires or periods of unhealthy air quality caused by smoke from wildfires. However, future potential development under the URCP could exacerbate wildfire risks by adding people, buildings, and infrastructure to wildfire-prone areas, thereby exposing people in the surrounding area to pollutant concentrations from a wildfire. A wildfire combined with easterly winds could expose residents in the county to the uncontrolled spread of wildfire.

Potential future development under the URCP would consist of new development in the Magalia Center and the Old Magalia neighborhoods. Development in these areas would be located on plateaus with flat to gently sloping topography. As described in the previous analysis of the General Plan 2040, all potential future development would be required to comply with State and County regulations and requirements, which minimize the ignition and spread of wildfire from new development due to slopes. Additionally, new development on the Upper Ridge would need to comply with Policies HS-P12.5, HS-P12.2, and HS-P14.5, which require compliance with State regulations and fuel breaks on the edge of developed areas. The potential new development on the Upper Ridge would be located on a plateau and would not substantially change the slope of the area, and therefore would not exacerbate wildfire pollutant concentrations or the uncontrolled spread of wildfire due to slope.

Vegetation on the Upper Ridge would be managed and maintained through a series of vegetation management, fuel reduction, fuel break projects designated in the Butte County LHMP and the Community Wildfire Protection Plan, which would reduce the uncontrolled spread of wildfire due to vegetation. As described in the previous General Plan 2040 discussion, new development in the Magalia Center and Old Magalia neighborhoods would be required to comply with State and local defensible space and vegetation management requirements, as well as proposed General Plan 2040 policies and actions. Existing development and redevelopment would also be required to comply with SRA Fire Safe Regulations for vegetation management. However, even with existing regulatory requirements and proposed General Plan 2040 Health and Safety Element policies and actions, potential future development under the URCP could expose people to the uncontrolled spread of wildfire or pollutant concentrations due to other factors, such as vegetation.

Adherence to the above building practices, fire safety regulations, and vegetation fuel management requirements would reduce the potential for exacerbating wildfire risks. However, due to the programmatic nature of this analysis, the unknown details and potential impacts of specific future potential development projects under the URCP, and the possibility of potential future development being located in wildfire-prone areas, impacts would still be potentially significant.

Level of Significance Before Mitigation: WILD-2 would be potentially significant.

Impact WILD-2b: Development under the proposed URCP could include an increase in population, buildings, and infrastructure on the Upper Ridge, which is in a SRA, Very High and High Fire Hazard Severity Zones, the WUI, and includes areas that have historically burned from wildfires. The Upper Ridge is heavily forested and experiences hot, dry easterly winds and therefore development could exacerbate wildfire risks.

Mitigation Measures

Implementation of the proposed URCP would increase population, buildings, and infrastructure in wildfire-prone areas, specifically in the Magalia Center and Old Magalia neighborhoods. Through URCP strategies, General Plan 2040 policies and actions, and mandatory wildfire hazard reduction measures through state regulations, impacts related to exacerbating the risk of pollutant concentrations from wildfire and the uncontrolled spread of wildfire would be reduced, but not to a less-than-significant level. The proposed URCP contains strategies to reduce wildfire hazards and conduct vegetation management on the Upper Ridge, such as Strategy HS-1.22 that requires the County to work with landowners, including absentee landowners, to safely maintain vegetation; Strategy HS-1.23 to develop and maintain a wildfire risk reduction buffer in coordination with surrounding land-owning agencies; Strategy HS-1.25 to coordinate

with Butte County Fire Safe Council to increase the use of the chipper program on the Upper Ridge; Strategy HS-1.26 to identify funding sources to implement projects identified in the Community Wildfire Protection Plan; and Strategy HS-1.27, which requires landscaping for new development to be fire-resistant.

New development, existing development, and redevelopment would also be required to comply with proposed General Plan 2040 policies and actions, as well as State regulations for reducing wildfire risks; however, the only way to fully avoid the wildfire impact from implementation of the proposed URCP is to not allow development in areas within High and Very High Fire Hazard Severity Zones and the WUI, thereby eliminating the wildfire impact. However, doing so is not feasible or practical as there is existing development on the Upper Ridge and the County has a responsibility to meet other conflicting obligations, including increases in the number and type of housing available in Butte County, redeveloping communities previously burned by wildfires, and maintaining economic drivers such as timber harvesting and outdoor recreation. The County needs to promote both economic development and corresponding residential development, as required by State housing law, within its adopted growth boundaries. While possible forms of mitigation for wildfire risks on the Upper Ridge would be implemented by the County through its General Plan 2040 policies and actions and URCP strategies, doing so to reduce impacts to a less-than-significant level would be infeasible and inconsistent with County planning goals and objectives. This conclusion does not prevent a finding of less-than-significant impacts at the project level; however, due to potential unknown impacts from future development under the General Plan 2040, impacts at the programmatic level would remain significant and unavoidable.

Level of Significance After Mitigation: WILD-2 would be significant and unavoidable.

WILD-3	If located in or near SRAs or lands classified as Very High Fire Hazard Severity Zones, the project would require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines, or other utilities) that would not exacerbate fire risk or that may result in temporary or ongoing impacts to the environment.

General Plan 2040

Buildout and implementation of the proposed General Plan 2040 would require the installation of new roadways, fuel breaks, emergency water sources, power lines, and other utilities to serve future potential development in Butte County.

- Roadways. As shown in Figure CIR-5A of the General Plan 2040 Circulation Element, proposed buildout of the General Plan 2040 would include new roadways to the north and south of Chico, which are in Moderate Fire Hazard Severity Zones in the SRA, as well as new roadways north of Palermo, which is in the High and Moderate Fire Hazard Severity Zones in the SRA. Potential future development under General Plan 2040 could also create new or expanded roadways in the eastern, fire-prone areas of Butte County, including converting forest roads to paved access roads, developing roadways to new development, and expansion of existing roads to accommodate evacuation and multi-modal forms of transportation.

- Fuel Breaks. Health and Safety Element Policies HS-P12.2 and HS-P12.3 require the development and maintenance of fuel breaks along the edge of developed areas, including existing non-conforming development, in Local Responsibility and State Responsibility Areas, the WUI, and residential areas. These fuel breaks would be consistent with mitigation actions in the LHMP and projects in the Community Wildfire Protection Plan.
- Emergency Water Sources. Health and Safety Element Policies HS-P12.6 and HS-P12.7 require all new development in the High or Very High Fire Hazard Severity Zones to provide adequate water conveyance infrastructure to meet daily and fire suppression fire-flow requirements. Policy HS-P11.6 also requires new development to prepare a Fire Protection Plan that includes provisions for adequate emergency water flow.
- Power Lines. Potential future development under General Plan 2040 would require electrical line installations and connections to provide power to buildings and infrastructure. Health and Safety Element Action HS-A21.1 also requires the County to work with PG&E to underground electrical transmission and distribution lines in new and existing development.
- Other Utilities. Potential future development under General Plan 2040 in eastern Butte County would also require the installation and maintenance of water systems, septic or sewer systems, internet infrastructure, and stormwater systems in wildfire-prone areas.

These types of improvements would involve temporary construction and result in changes to the existing built environment. The installation and operation of new aboveground power transmission lines would create a higher risk of exacerbating wildfire risks compared to other infrastructure. However, as stated previously, the Health and Safety Element encourages the undergrounding of new and existing electrical transmission lines. Additionally, the CPUC requires maintenance of vegetation around power lines, strict wire-to-wire clearances, annual inspections of aboveground power lines, and the preparation of fire prevention plans for aboveground power lines in high fire-threat districts. These measures would reduce the wildfire risks associated with the installation and maintenance of power lines.

Any development or redevelopment in the wildfire-prone areas of eastern Butte County would also be required to comply with building and design standards in the California Building Code and California Fire Code, which include provisions for fire-resistant building materials, the clearance of debris, and fire safety requirements during demolition and construction activities. Public Resources Code Section 4291 also requires vegetation around buildings or structures to maintain defensible space within 100 feet of a structure and an ember-resistant zone within 5 feet of a structure. Additionally, SRA Fire Safe Regulations would prevent structures from being placed within 30 feet of a roadway, reducing the potential for new roadways to exacerbate wildfire risks. These measures, along with policies and actions in the General Plan 2040 Health and Safety Element for undergrounding of power lines, creation and maintenance of fuel breaks, and ensuring adequate emergency water supply would minimize wildfire risks associated with the installation and maintenance of infrastructure.

Such infrastructure and maintenance activities would also be required to comply with the adopted State regulations, Butte County Code of Ordinance standards, and proposed General Plan 2040 policies and actions to mitigate the impact of infrastructure on the environment. Therefore, impacts would be less than significant.

Level of Significance Before Mitigation: WILD-3 would be less than significant.

Mitigation Measures

No mitigation measures are required.

Upper Ridge Community Plan

Implementation of the URCP would allow for mixed-use development on 28 parcels in the Magalia Center and Old Magalia neighborhoods. These parcels are in areas that are currently developed with residential or commercial uses, and therefore, existing infrastructure on the Upper Ridge, including roadways, emergency water sources, water infrastructure, power lines, and other utilities, could accommodate this increase in development and population. New development would, however, require minor alterations of utility systems to connect water, natural gas, and sewer line piping to new buildings and facilities. Although the URCP does not anticipate such infrastructure being needed, such infrastructure, if necessary, would be required to comply with the adopted State and local regulations to mitigate the impact of infrastructure on the environment.

While the URCP does not propose installation of large-scale new infrastructure as part of the buildout, it does include strategies that require the development and maintenance of wildfire risk-reduction buffers, improved roadways (as discussed in Impact Discussion WILD-1), undergrounding and hardening electricity lines, and expanding the Magalia Center microgrid. The installation and maintenance of these facilities would reduce overall fire hazard risks. Roadway improvements and other construction would be required to comply with the California Building Code, California Fire Code, SRA Fire Safe Regulations, Public Resources Code 4291, the Butte County Code of Ordinances, as well as policies, actions, and strategies to reduce wildfire hazards in the General Plan 2040 Health and Safety Element and URCP, which would reduce the risk of exacerbating wildfires. Additionally, all infrastructure would be required to comply with the adopted State and local regulations to mitigate the impact of infrastructure on the environment. Therefore, impacts would be less than significant.

Level of Significance Before Mitigation: WILD-3 would be less than significant.

Mitigation Measures

No mitigation measures are required.

WILD-4	If located in or near State Responsibility Areas or lands classified as Very High Fire Hazard Severity Zones, the project would not 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.

Catastrophic wildfires, such as the 2018 Camp Fire and 2020 North Complex Fire, can create favorable conditions for other hazards, such as flooding and landslides during the rainy season. Wildfires on steep slopes can burn the vegetation that stabilizes the slope and create hydrophobic conditions that prevent the ground from absorbing water. This can lead to landslides, debris flows, and flooding. A project would result in a significant impact if—due to slopes, drainage patterns, or post-fire slope instability—it would expose people or structures to significant risks from landsides, debris flows, or flooding.

As discussed in Chapter 5.10, *Hydrology and Water Quality*, Butte County contains lands within the 100-year, 200-year, and 500-year floodplain. As shown in Figure 5.10-10, floodplains are primarily in the western valley portion of the county, but 100-year floodplains also occur along the rivers and creeks in the canyons of eastern Butte County. The Upper Ridge community is likely to experience flooding events within the 100-year floodplain, which are near Paradise Lake and Magalia Reservoir, as well as along the three creeks that run through the community.

As discussed in Chapter 5.7, *Geology, Soils, and Seismicity*, the eastern portions of Butte County are in landslide-susceptible areas, with many of the moderate to high landslide potential areas coinciding with High or Very High Fire Hazard Severity Zones. Many of the high landslide potential areas are on the steep slopes of canyons that have been carved out by rivers and creeks, creating overlapping flood-prone and landslide-prone areas in the steep mountain ranges of eastern Butte County. This overlap may cause areas outside of a flood hazard or landslide-susceptible zone to be affected by runoff, post-fire slope instability, or drainage changes following a wildfire.

General Plan 2040

Potential future development under the General Plan 2040 could contribute to post-fire slope instability or drainage changes upstream. However, proposed Health and Safety Element Policy HS-P7.3 discourages new development in landslide-prone areas throughout the county, and Policy HS-P2.4 limits new development in the 100-year floodplain, except when specific safety conditions are met to reduce the effects of flooding. Additionally, all new development in the county is required to comply with State and local regulations, such as the California Building Code and Butte County Code of Ordinances, both of which have provisions. For example, Section 1803 of the 2019 California Building Code requires a geotechnical investigation that must assess existing landslide susceptibility on a project site. Butte County Code of Ordinances, Chapter 13, Article I, Grading, also requires a grading permit to control erosion and slope stability. Additionally, the General Plan 2040 Health and Safety Element contains Policy HS-P7.1, requiring site-specific geotechnical investigations that assess landslide potential for all development in landslide-prone areas; Policy HS-P7.2, coordinating emergency actions to stabilize burned slopes and reduce erosion and runoff in burn areas above developed areas, important infrastructure, or key transportation corridors as soon as possible after a wildfire event; and Action HS-A7.2, requiring the use of retaining walls, slope stabilization techniques, and

other strategies to stabilize single-access roads and trails. Furthermore, the General Plan 2040 Health and Safety Element contains the following policies and actions to minimize runoff and prevent flooding:

- Policy HS-P3.1: Watersheds shall be managed to minimize flooding by minimizing impermeable surfaces, retaining or detaining stormwater, and controlling erosion.
- Policy HS-P3.2: Applicants for new development projects shall provide plans detailing existing drainage conditions and specifying how runoff will be detained or retained on-site and/or conveyed to the nearest drainage facility and shall provide that there shall be no increase in the peak flow runoff to said channel or facility.
- Policy HS-P3.3: All development projects shall include stormwater control measures and site design features that prevent any increase in the peak flow runoff to existing drainage facilities.
- Policy HS-P3.5: The County shall require redevelopment after flooding to meet current California Building Standards Code and flood-related Code of Ordinances requirements to reduce future vulnerabilities to flood hazards through site preparation, layout design, and flood-proofing building design and materials.
- Action HS-A3.3: Conduct regular cleaning and maintenance of storm drains and address potential ponding and improvement needs along key roadways and in communities and neighborhoods subject to flooding due to poor drainage, especially in advance of the rainy season.

New development complying with these policies and actions in General Plan 2040 would not expose people or structures to downslope landslides or downstream flooding due to post-fire hazards. Furthermore, as identified in Impact Discussions WILD-1 and WILD-2, development under General Plan 2040 must also comply with best management practices regarding wildfire prevention, action, and recovery as outlined in the Butte County EOP, LHMP, and Community Wildfire Protection Plan. All future development, regardless of the location, is required to comply with adopted local, regional, and State plans and regulations addressing wildfire prevention, which would minimize risks of post-fire hazards. As such, compliance with these policies and regulatory requirements would ensure impacts from post-fire instability would be less than significant.

Level of Significance Before Mitigation: WILD-4 would be less than significant.

Mitigation Measures

No mitigation measures are required.

Upper Ridge Community Plan

As discussed in Impact Discussion WILD-2, potential future development under the URCP would consist of new development on plateaus with flat to gently sloping topography. Development on the Upper Ridge would be required to comply with the State and local regulations, as well as General Plan 2040 policies and actions listed above to reduce landslides and flooding due to post-wildfire hazards. Additionally, the URCP contains the following policies to reduce landslide and flooding hazards on the Upper Ridge, which would also minimize these hazards downslope or downstream:

- Strategy HS-1.7: Develop a Stormwater Master Plan for the Upper Ridge, evaluating where stormwater infrastructure is deficient in conveying a 100-year storm, integrating climate change considerations, and providing infrastructure development or upgrades to reduce flooding and ponding of water on the Upper Ridge.
- Strategy HS-1.13: Require landslide-resistant planning and design for new development in landslide prone areas. Any development in landslide prone areas shall prepare drainage plans that direct runoff and stormwater away from potential unstable slopes
- Strategy HS-1.14: Build retaining walls and use slope stabilization methods to stabilize single access roads, key roadway connectors, and trails on the Upper Ridge in landslide prone areas.

New development in compliance with these strategies and the policies and actions in the General Plan 2040 would not expose people or structures to downslope landslides or downstream flooding due to post-fire hazards. Furthermore, as identified in Impacts WILD-1 and WILD-2, development on the Upper Ridge must also comply with best management practices regarding wildfire prevention, action, and recovery as outlined in the Butte County EOP, LHMP, and Community Wildfire Protection Plan. All future development, regardless of the location, is required to comply with adopted local, regional, and State plans and regulations addressing wildfire prevention, which would minimize risks of post-fire hazards. As such, compliance with these policies and regulatory requirements would ensure impacts from postfire instability would be less than significant.

Level of Significance Before Mitigation: WILD-4 would be less than significant.

Mitigation Measures

No mitigation measures are required.

5.18.5 CUMULATIVE IMPACTS

WILD-5	The proposed project, in combination with past, present, and reasonably foreseeable projects, would result in less-than-significant cumulative impacts with respect to wildfire.

The cumulative setting includes potential future development in Butte County and the surrounding region. Future development under the proposed project would not exacerbate wildfire risks due to the installation or maintenance of infrastructure and would not cause downslope or downstream post-fire flooding or landslide hazards. Potential impacts to emergency response and evacuation plans would be minimized through the implementation of Mitigation Measures WILD-1 and WILD-2. Cumulative development in adjacent jurisdictions would be subject to the same State regulations. Although federal lands would not be subject to State regulations, they would still be subject to the National Cohesive Wildfire Management Strategy and the Health Forests Restoration Act, in addition to specific wildfire management provisions implemented by the USFS.

However, the proposed project would result in significant and unavoidable impacts where it would potentially expose project occupants to pollutant concentrations from a wildfire or uncontrolled spread of a wildfire due to slope, prevailing winds, or other factors, as described in Impact WILD-2. The addition of other proposed development projects in adjacent jurisdictions, including federal lands, would have the potential to contribute to cumulative wildfire risks. These projects would have the potential to result in significant environmental impacts and they could also potentially expose project occupants to pollutant concentrations from a wildfire or uncontrolled spread of a wildfire due to slope, prevailing winds, or other factors. These would potentially result in cumulatively considerable impacts when taken into consideration with the General Plan 2040 and URCP. In general, the increase of potential development projects within the SRA or Very High Fire Hazard Severity Zone would result in a cumulatively significant impact, and since contributions from the proposed project would result in significant impacts, the proposed project would result in cumulatively considerable impacts. Therefore, cumulative wildfire impacts would be potentially significant.

Level of Significance Before Mitigation: WILD-5 would be potentially significant.

Impact WILD-5: Potential development under the proposed General Plan 2040 and URCP could, in combination with other surrounding and future projects in the SRA or Very High Fire Hazard Severity Zones, result in cumulative impacts associated with the exposure of project occupants to pollutant concentrations from a wildfire or uncontrolled spread of a wildfire due to slope, prevailing winds, or other factors.

Mitigation Measures

Implement Mitigation Measure WILD-1. There are no additional feasible mitigation measures available to reduce this cumulative impact to a less-than-significant level.

Level of Significance After Mitigation: WILD-5 would be significant and unavoidable.

5.18.6 REFERENCES

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6. *Unavoidable Impacts, Irreversible Changes, and Growth-Inducing Impacts*

6.1 SIGNIFICANT UNAVOIDABLE AND ADVERSE IMPACTS

At the end of Chapter 1, *Executive Summary*, is a table that summarizes the impacts, mitigation measures, and levels of significance before and after mitigation. Mitigation measures would reduce the level of impact, but the following impacts would remain significant, unavoidable, and adverse after mitigation measures are applied:

Agriculture and Forestry Resources

- **AG-1:** The project would 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.
- **AG-2:** The project would conflict with existing zoning for agricultural use, or a Williamson Act contract.
- **AG-4:** The project would result in loss of forest land or conversion of forest land to non-forest use.

Air Quality

- **AQ-1:** Implementation of General Plan 2040 and URCP would conflict with or obstruct implementation of the applicable air quality plan.
- **AQ-2:** Construction of the proposed project would result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard.
- **AQ-3:** Operation of the proposed project would result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard.
- **AQ-5:** Operation of non-permitted sources accommodated under General Plan 2040 would expose sensitive receptors to substantial pollutant concentrations of toxic air contaminants.
- **AQ-6:** General Plan 2040 would result in other emissions (such as those leading to odors) adversely affecting a substantial number of people.
- **AQ-7:** The proposed project, in combination with past, present, and reasonably foreseeable projects, would result in significant cumulative impacts with respect to air quality.

Biological Resources

- **BIO-7:** The proposed project, in combination with past, present, and reasonably foreseeable projects, would not result in less-than-significant cumulative impacts with respect to biological resources.

Greenhouse Gas Emissions

- **GHG-1:** The project would not generate greenhouse gas emissions, either directly or indirectly, that may have a significant effect on the environment.

Noise

- **NOI-1:** Implementation of the project would result in the generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or in other applicable local, state, or federal standards.
- **NOI-4**: Buildout of the project, in combination with past, present, and reasonably foreseeable projects, would result in potentially significant cumulative impacts with respect to noise.

Wildfire

- **WILD-2:** If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, the project, due to slope, prevailing winds, and other factors, could exacerbate wildfire risks, and thereby expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of wildfire.

6.2 SIGNIFICANT IRREVERSIBLE CHANGES DUE TO THE PROPOSED PROJECT

Section 15126.2(c) of the California Environmental Quality Act (CEQA) Guidelines requires an environmental impact report (EIR) to discuss the extent to which the proposed project would commit nonrenewable resources to uses that future generations would probably be unable to reverse. Specifically, the CEQA Guidelines state:

> Uses of nonrenewable resources during the initial and continued phases of the project may be irreversible since a large commitment of such resources makes removal or nonuse thereafter unlikely. Primary impacts and, particularly, secondary impacts (such as highways improvement which provides access to a previously inaccessible area) generally commit future generations to similar uses. Also, irreversible damage can result from environmental accidents associated with the project. Irretrievable commitments of resources should be evaluated to assure that such current consumption is justified.

The following are the significant irreversible changes that would be caused by the proposed project, should it be implemented:

- Implementation of the proposed project would include construction activities that would entail the commitment of nonrenewable and/or slowly renewable energy resources; human resources; and natural resources such as lumber and other forest products, sand and gravel, asphalt, steel, copper, lead, other metals, water, and fossil fuels. Operation of the proposed project would require the use of natural gas and electricity, petroleum-based fuels, fossil fuels, and water. The commitment of resources required for the construction and operation of the proposed project would limit the availability of such resources for future generations or for other uses during the life of the project.
- An increased commitment of social services and public maintenance services (e.g., police, fire, schools, libraries, and sewer and water services) would also be required. The energy and social service commitments would be long-term obligations in view of the low likelihood of returning the land to its original condition once it has been developed.
- An increase in vehicle trips would accompany project-related population growth. Over the long term, emissions associated with such vehicle trips would continue to contribute to the Sacramento Valley Air Basin's nonattainment designation for ozone (O_3) and particulate matter (PM_{10}) under the California and National Ambient Air Quality Standards (AAQS), and nonattainment for nitrogen dioxide (NO_2) under the California AAQS.
- The visual character of the General Plan Area would be altered by the construction of new developments and redevelopment. Additional landscaping, grading, and construction of the General Plan Area would also contribute to an altered visual character of the existing area. This would result in a permanent change in the character of the General Plan Area and on- and off-site views in the project's vicinity.

Given the low likelihood that the land in the General Plan Area would revert to its original form, the proposed project would generally commit future generations to these environmental changes.

6.3 GROWTH-INDUCING IMPACTS OF THE PROJECT

Pursuant to Sections 15126(d) and 15126.2(d) of the CEQA Guidelines, this section is provided to examine ways in which the proposed project could foster economic or population growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment. Also required is an assessment of other projects that would foster other activities that could affect the environment, individually or cumulatively. To address this issue, potential growth-inducing effects will be examined through analysis of the following questions:

- Would this project remove obstacles to growth, e.g., through the construction or extension of major infrastructure facilities that do not presently exist in the project area, or through changes in existing regulations pertaining to land development?
- Would this project result in the need to expand one or more public services to maintain desired levels of service?

- Would this project encourage or facilitate economic effects that could result in other activities that could significantly affect the environment?
- Would approval of this project involve some precedent-setting action that could encourage and facilitate other activities that could significantly affect the environment?

Please note that growth-inducing effects are not to be construed as necessarily beneficial, detrimental, or of little significance to the environment. This issue is presented to provide additional information on ways in which this project could contribute to significant changes in the environment, beyond the direct consequences of developing the land use concept examined in the preceding sections of this EIR.

Would this project remove obstacles to growth, e.g., through the construction or extension of major infrastructure facilities that do not presently exist in the project area, or through changes in existing regulations pertaining to land development?

The proposed General Plan encourages growth in areas of the county either currently planned to accommodate development or planned to expand on existing development. The proposed General Plan would increase employment opportunities so that residents can live and work in the county. Reducing the need to commute outside the county will reduce vehicle miles travelled, thereby reducing greenhouse gas emissions. Because the growth is directed to areas already developed, it is not anticipated that major new infrastructure will be needed.

The county is choosing to accommodate both the assigned regional housing need and expansion of employment in this General Plan anticipating that planning for and accepting growth will reduce pressure to develop other land in the surrounding area. The county hopes to streamline approval of projects that are consistent with the General Plan by tiering from this EIR. Nonetheless, future development will need to demonstrate consistency with the General Plan and that project-specific environmental impacts have been addressed. As this EIR addresses the countywide impacts associated with future growth, and site-specific analysis will need to be prepared to demonstrate compliance, subsequent impacts would not significantly affect the environment. The proposed project does not approve the construction of specific development projects and would largely accommodate growth based on market conditions. However, in the Upper Ridge Community Plan, it would allow increased development intensity and a more inclusive mix of land uses compared to existing conditions. Therefore, the proposed project removes regulatory obstacles to growth and is considered to be growth inducing.

Would this project result in the need to expand one or more public services to maintain desired levels of service?

Over time, the County anticipates the need to expand services to meet the needs of growth envisioned in the General Plan. An increase in development would require an increased commitment to public services that would be considered a long-term commitment to maintain a desired level of service. This is considered a growth-inducing impact. There are several mechanisms in place to ensure there is adequate funding for expansion, such as annual budgets, development impact fees, and coordination with local and regional agencies. The growth anticipated in this General Plan is focused in areas of the county where development is already planned or served by public services.

Would this project encourage or facilitate economic effects that could result in other activities that could significantly affect the environment?

Development consistent with the General Plan may have significant impacts on the existing environment. Even though growth is directed to the focus areas that have already been graded or built up, development outside of the focus areas in the county may impact sensitive biological resources. Impacts may also occur to historic resources, including historic landscape, and tribal cultural resources, depending on the location of the development. Between the standard conditions of approval, existing County ordinances, and procedures such as tribal consultation, these impacts can either be reduced to less than significant or require preparation of a project-specific EIR. Although the proposed project would have a direct growth-inducing effect, indirect growth-inducing effects would be minimized due to the balance of land uses in the proposed project.

Would approval of this project involve some precedent-setting action that could encourage and facilitate other activities that could significantly affect the environment?

Approval of the proposed project would not set a precedent that could encourage and facilitate other activities that could significantly affect the environment. Cities and counties in California periodically update their general plans pursuant to California Government Code Sections 65300 et seq.

As discussed in Chapter 3, *Project Description*, the proposed project consists of the preparation of the Butte County General Plan Update, which includes revisions to the six updated elements: Circulation Element, Environmental Justice Element (New Element), Health and Safety Element, Housing Element, Land Use Element, and Water Resources Element. Other elements of the current General Plan will be revised to ensure consistency with the updated elements: Area and Neighborhood Plans Element, Agricultural Element, Conservation and Open Space Element, Economic Development Element, and Public Facilities and Services Element. The purpose of the proposed General Plan Update is to provide a framework in which the growth can be managed and tailored to suit the needs of the community and the surrounding area. Pressures to develop in the surrounding cities may derive from regional economic conditions and market demands for housing, commercial, office, and industrial land uses that may be directly or indirectly influenced by the proposed project.

Buildout projections for the proposed project are based on the theoretical buildout (dwelling units, population, nonresidential square footage, and employment) of each land use designation, which are calculated using the range of allowable densities. Buildout projections for the proposed project are shown in Table 3-3, *Unincorporated County Buildout Projections,* in Chapter 3, *Project Description*. As shown in Table 3-3, Butte County is projected to house an estimated 63,421 residents by 2040. This is a 28 percent increase from 2020. Additionally, 25,568 housing units, 9,860 employees, 2.04 million square feet of retail and office space, and 2.65 million square feet of industrial are projected for 2040. The majority of the new residential units are projected to develop within the spheres of influence (SOIs) of the incorporated municipalities and in existing unincorporated communities.

Although the proposed project does not include approval of physical development, it creates additional development capacity in the Planning Area compared to existing conditions. Furthermore, development projects would be induced more by market demands than by new development capacity created by land use changes included in the proposed Land Use Map. However, because approval of the proposed project would ultimately result in subsequent projects that would have their own environmental impacts—including potentially significant impacts—the proposed project is a precedent-setting and growth-inducing action.

7. *Alternatives to the Proposed Project*

7.1 INTRODUCTION

7.1.1 PURPOSE AND SCOPE

The California Environmental Quality Act (CEQA) requires that an environmental impact report (EIR) include a discussion of reasonable project alternatives that would "feasibly attain most of the basic objectives of the project but would avoid or substantially lessen any significant effects of the project, and evaluate the comparative merits of the alternatives" (CEQA Guidelines Section 15126.6[a]). As required by CEQA, this chapter identifies and evaluates potential alternatives to the proposed project.

Section 15126.6 of the CEQA Guidelines explains the foundation and legal requirements for the alternatives analysis in an EIR. Key provisions are:

- "[T]he discussion of alternatives shall focus on alternatives to the project or its location which are capable of avoiding or substantially lessening any significant effects of the project, even if these alternatives would impede to some degree the attainment of the project objectives, or would be more costly." (CEQA Guidelines, Section 15126.6[b])
- "The specific alternative of 'no project' shall also be evaluated along with its impact." (CEQA Guidelines, Section 15126.6[e][1])
- "The no project analysis shall discuss the existing conditions at the time the notice of preparation is published, or if no notice of preparation is published, at the time environmental analysis is commenced, as well as what would be reasonably expected to occur in the foreseeable future if the project were not approved, based on current plans and consistent with available infrastructure and community services. If the environmentally superior alternative is the 'no project' alternative, the EIR shall also identify an environmentally superior alternative among the other alternatives." (CEQA Guidelines, Section 15126.6[e][2])
- "The range of alternatives required in an EIR is governed by a 'rule of reason' that requires the EIR to set forth only those alternatives necessary to permit a reasoned choice. The alternatives shall be limited to ones that would avoid or substantially lessen any of the significant effects of the project." (CEQA Guidelines, Section 15126.6[f])
- "Among the factors that may be taken into account when addressing the feasibility of alternatives are site suitability, economic viability, availability of infrastructure, general plan consistency, other plans or regulatory limitations, jurisdictional boundaries…, and whether the proponent can reasonably acquire, control or otherwise have access to the alternative site (or the site is already owned by the proponent)." (CEQA Guidelines, Section 15126.6[f][1])

- "Only locations that would avoid or substantially lessen any of the significant effects of the project need be considered for inclusion in the EIR." (CEQA Guidelines, Section 15126.6[f][2][A])
- "An EIR need not consider an alternative whose effect cannot be reasonably ascertained and whose implementation is remote and speculative." (CEQA Guidelines, Section 15126.6[f][3])

For each development alternative, this analysis:

- Describes the alternative.
- Analyzes the impact of the alternative as compared to the proposed project.
- Identifies the impacts of the project that would be avoided or lessened by the alternative.
- Assesses whether the alternative would meet most of the basic project objectives.
- Evaluates the comparative merits of the alternative and the project.

According to Section 15126.6(d) of the CEQA Guidelines, "[i]f an alternative would cause…significant effects in addition those that would be caused by the project as proposed, the significant effects of alternative shall be discussed, but in less detail than the significant effects of the project as proposed."

7.1.2 PROJECT OBJECTIVES

As described in Section 3.3, *Project Objectives*, in Chapter 3, *Project Description*, the following objectives have been established for the proposed project and will aid decision makers in their review of the project, the project alternatives, and associated environmental impacts.

- Support the recovery of Camp and North Complex Fires, which destroyed thousands of structures and displaced residents.
- Address the current and future needs of residents, businesses, employees, and visitors of Butte County.
- Comply with the State regulations, including new laws such as environmental justice and climate adaptation.
- Engage community members as key decision makers for adaptation, community resiliency, public safety, and environmental justice.
- Incorporate the Upper Ridge Community Plan in the General Plan.
- Update the General Plan without significant land use changes.

7.1.3 SIGNIFICANT IMPACT OF THE PROJECT

The following significant and unavoidable impacts are identified in Chapter 5, *Environmental Analysis,* of this Draft EIR:

Agriculture and Forestry Resources

- **AG-1:** The project would convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), to non-agricultural use.

- AG-2: The project would conflict with existing zoning for agricultural use or a Williamson Act contract.
- AG-4: The project would result in loss of forest land or conversion of forest land to non-forest use.

Air Quality

- AQ-1: Implementation of General Plan 2040 and URCP would conflict with or obstruct implementation of the applicable air quality plan.
- AQ-2: Construction of the proposed project would result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard.
- AQ-3: Operation of the proposed project would result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard.
- AQ-5: Operation of non-permitted sources accommodated under General Plan 2040 would expose sensitive receptors to substantial pollutant concentrations of toxic air contaminants.
- AQ-6: General Plan 2040 would result in other emissions (such as those leading to odors) adversely affecting a substantial number of people.
- AQ-7: The proposed project, in combination with past, present, and reasonably foreseeable projects, would result in significant cumulative impacts with respect to air quality.

Biological Resources

- BIO-7: The proposed project, in combination with past, present, and reasonably foreseeable projects, would result in significant and unavoidable cumulative impacts with respect to biological resources.

Greenhouse Gas Emissions

- GHG-1: The General Plan Update and the URCP would generate GHG emissions, either directly or indirectly, that may have a significant effect on the environment.
- GHG-3: Implementation of the proposed project would, in combination with past, present, and reasonably foreseeable projects, result in a cumulative impact with respect to GHG emissions.

Noise

- NOI-1: Implementation of the project would result in the generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or in other applicable local, state, or federal standards.
- NOI-4: Buildout of the project, in combination with past, present, and reasonably foreseeable projects, would result in potentially significant cumulative impacts with respect to noise.

Wildfire

- WILD-2: If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, the project, due to slope, prevailing winds, and other factors, could exacerbate wildfire risks, and thereby expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of wildfire.

7.2 ALTERNATIVES CONSIDERED AND REJECTED DURING THE SCOPING/PROJECT PLANNING PROCESS

Alternatives to the proposed project were evaluated based on their ability to reduce potentially significant impacts of the proposed project and their potential to attain most of the project's objectives. The following is a discussion of the land use alternatives considered during the scoping and planning process and the reasons why they were not selected for detailed analysis in this Draft EIR.

7.2.1 ALTERNATIVE DEVELOPMENT SITE

CEQA requires that the discussion of alternatives focus on alternatives to the project or its location that are capable of avoiding or substantially lessening any significant effects of the project. The key question and first step in the analysis is whether any of the significant effects of the project would be avoided or substantially lessened by putting the project in another location. Only locations that would avoid or substantially lessen any of the significant effects of the project need be considered for inclusion in the EIR (CEQA Guidelines Section 15126[5][B][1]). The proposed project is a General Plan Update for Butte County. As the proposed project is specifically for Butte County, an alternative development area would be infeasible and was not analyzed.

7.2.2 NO DEVELOPMENT IN THE VERY HIGH FIRE HAZARD SEVERITY ZONE

The California Department of Forestry and Fire Protection (CAL FIRE) designates lands into responsibility areas based on who is financially responsible for fire protection services. Federal Responsibility Areas (FRA) are fire-prone wildland areas that are owned or managed by a federal agency. State Responsibility Areas (SRA) are lands where CAL FIRE has legal and financial responsibility for wildfire protection and administers fire hazard classifications and building standard regulations. SRAs include forested lands and land that is generally considered wildland. SRAs do not include incorporated cities or federal lands. Local Responsibility Areas (LRAs) include land in cities, cultivated agriculture lands, nonflammable areas in unincorporated areas, and lands that do not meet the criteria for a SRA or FRA.

LRA fire protection is typically provided by city fire departments, fire protection districts, and counties, or by CAL FIRE under contract to local governments. SRAs include unincorporated areas and State lands where the State/CAL FIRE has financial responsibility for wildfire protection. Within the responsibility areas, CAL FIRE designates (with city and county approvals) lands within Fire Hazard Severity Zones (FHSZ). CAL FIRE

designates lands within SRAs as Moderate, High, and Very High FHSZs; in LRAs, CAL FIRE only designates land within Very High FHSZs.

The responsibility for the prevention and suppression of wildfires in Butte County belongs to the Butte County Fire Department (BCFD), with support from CAL FIRE Butte Unit, US Forest Service (USFS) Plumas National Forest Unit, and Lassen National Forest Unit. The Cities of Chico and Oroville have independent fire departments; BCFD provides fire protection to the unincorporated areas of Butte County, the Cities of Biggs and Gridley, and the Town of Paradise.

The Land Use Diagram (Figure 3-3) designates approximately 400,750 acres (38 percent) of the unincorporated County as being within the Very High FHSZ as defined by the State Fire Marshall. Although the majority of the land within the Very High FHSZ is designated for Timber Mountain and Agriculture, residential land uses are also allowed in these areas. There are 39,045 acres that are designated for development that are also within the Very High FHSZ. Table 7-1, *Buildout of Land in the Very High Fire Hazard Severity Zone*, shows the maximum potential number of housing units and population estimates for developable land within the Very High FHSZ. In total, buildout potential in the Very High FHSZ of unincorporated Butte County is 35,103 housing units which equates to 79,028 residents.

An alternative to limiting exposure of new development to wildfire is to change the General Plan land use designation to only allow for agriculture or timber uses on lands designated as a Very High FHSZ. While some of the housing units might be relocated outside of the Very High FHSZ to other parts of the county, it is unlikely that all of the units could be relocated. Therefore, this alternative assumes none of the potential housing development would be relocated outside of a Very High FHSZ.

The reason for development in these very High FHSZs is to support Butte County's important agricultural industry which would place workers closer to crops and timber. The General Plan already includes policies that discourage new development outside of incorporated cities or identified developed areas, and the zoning code that implements most of the agriculturally designated land allows only one home per parcel with parcel sizes ranging from 20- to 160-acres in size. Similarly, rural residential zones limit density starting at one-acre minimum parcel size increasing to 40-acre minimums in the Foothill Residential and Foothill Country Residential District (FCR). Farmworker housing is permitted in all agricultural zones and would exceed this density on a case-by-case basis.

Prohibiting development in these areas would push workers further away from their job sites, which would increase vehicle miles travelled and could make routine maintenance more difficult because of the long distances involved. The Safety Element includes several policies that require fuel breaks at the edge of developed areas (HS-P12.2), and fire-resistant landscaping (HS-P12.3) as well as close coordination with CAL FIRE, USFS, and regional park districts (HS-A11.5). The General Plan also allows for a transfer of development rights from within the Very High FHSZ and Wildland-Urban Interface to lands outside of these fire-prone areas (HS-A11.7). Development within the Very High FHSZ is required to provide adequate water for fire suppression, meet the current fire-safe ordinance standards, and prepare a Fire Protection Plan (HS-P12.6, and HS-P12.7, HS-P11.5 and HS-P11.6). Furthermore, the County will continue to provide safe and effective evacuation routes for fire prevention and suppression (HS-P13.1, HS-A13.1, HS-A13.2, and HS-A13.3).

Despite all these policies wildfire will continue to be a high-risk hazard for the county as a whole as personal safety and property is threatened by increased wildfire frequency. The combination of complex terrain, Mediterranean climate, and productive natural plant communities, along with ample natural ignition sources, has created conditions for extensive wildfires in and around Butte County, making wildfire a hazard of high concern. As such, wildfire hazard remains an existing condition and a limiting factor in rural, mountainous, and forested areas. Eliminating the development potential possible within Very High FHSZs would not eliminate the probability of a wildfire, and without local fire suppression improvements, it could make it more difficult to fight wildfires that will continue to occur in the future. Relocating farm and forest workers further from the county's natural resources would increase the cost of transportation and housing for residents as they will need to compete with the more urban areas for the same housing, and travel farther to reach their job sites. As this alternative would require a major change in land use and would not support or encourage and promote the expansion of agriculture, it is rejected from further consideration in this EIR.

TABLE 7-1 BUILDOUT OF LAND IN THE VERY HIGH FIRE HAZARD SEVERITY ZONE

General Plan Designation	Total Acres	Residential Density	Housing Units	Population[1]
Agriculture	14,242.3			
Industrial	20.5			
Public	7,266.2			
Planned Unit Development	18.1			
Recreation Commercial	2,073.9			
Recreation	128.7			
Right-Of-Way	58.1			
Retail	519.3			
Timber Mountain	337,378.3			
Rural Residential	8,007.7	5*	1,602	3,607
Foothill Residential	29,667.2	1*	29,667	66,790
Very Low Density Residential	882.2	1	882	1,986
Low Density Residential	204.3	3	613	1,380
Medium Density Residential	236.2	6	1,417	3,190
Medium High Density Residential	5.2	14	73	164
Mixed Use	42.4	20	849	1,911
TOTAL	**400,750**		**35,103**	**79,028**

Note: complete buildout of all parcels at their maximum residential density is assumed.

[1] Population is based on the Butte County unincorporated persons/household shown in the 2022 Department of Finance E-5 Population and Housing Estimates.

* The residential of Foothill Residential and Rural Residential designations are shown as acres/dwelling unit. All other residential designations are shown in units/acre.

7.3 ALTERNATIVES SELECTED FOR FURTHER ANALYSIS

Based on the criteria listed above, the following alternatives have been determined to represent a reasonable range of alternatives that have the potential to feasibly attain most of the basic objectives of the project, but which may avoid or substantially lessen any of the significant effects of the project. These alternatives are analyzed in the following sections:

- No Project Alternative

An EIR must identify an "environmentally superior" alternative and where the No Project Alternative is identified as environmentally superior, the EIR is then required to identify as environmentally superior an alternative from among the others evaluated. Each alternative's environmental impacts are compared to the proposed project and determined to be environmentally superior, neutral, or inferior. The preferred land use alternative (proposed project) is analyzed in detail in Chapter 5, *Environmental Analysis*, of this Draft EIR. This chapter provides a comparative analysis, by impact, for each of the alternatives.

7.3.1 NO PROJECT ALTERNATIVE

The No Project Alternative is required to discuss the existing conditions at the time the notice of preparation is published and evaluate what would reasonably be expected to occur in the foreseeable future if the proposed project is not approved (CEQA Guidelines, Section 15126.6[e]). Pursuant to CEQA, this alternative is based on current plans and consistent with available infrastructure and community services. Therefore, the No Project Alternative assumes that the proposed project would not be adopted and development in the Plan Area would occur as intended in the County's General Plan.

7.3.1.1 AESTHETICS

Under the No Project Alternative, the Plan Area would be developed under the current land use plan of the County's General Plan. The County's Municipal Code identifies development standards to ensure quality development in the county. Under this alternative, the Upper Ridge Community Plan would not increase development potential in the Upper Ridge community with 28 parcels redesignated from Retail and Office to Mixed-use land uses in the Old Magalia and Magalia Center neighborhoods. While growth under the No Project Alternative would be subject to existing County policies and regulations pertaining to scenic resources, including the Scenic Highway classifications and policies in the existing General Plan, the proposed project includes goals, policies, and actions that are more comprehensive and detailed than those in the existing General Plan. Impacts to aesthetics would be less than significant and would be the same as the proposed project.

7.3.1.2 AGRICULTURE AND FORESTRY RESOURCES

Under the No Project Alternative, the Plan Area would be developed under the current land use plan of the County's General Plan. Like the proposed project, the No Project Alternative would allow for conversion of Prime Farmland, Unique Farmland, or Farmland of Statewide Importance to nonagricultural use because it applies nonagricultural designations on some farmlands.

In addition, the land use designations under the existing General Plan would allow nonagricultural development on some parcels currently under Williamson Act contract. Although many parcels in the Agriculture Element of the existing General Plan are carried forward into the proposed General Plan 2040, the existing General Plan lacks other new policies and development standards proposed under General Plan 2040 to protect agricultural resources, including retaining and protecting agricultural lands through the use of proactive land use techniques and requiring that a buffer be established on property proposed for residential development to protect lands designated Agriculture. Impacts to agriculture and forestry resources would be significant and unavoidable and would be the same as the proposed project.

7.3.1.3 AIR QUALITY

While the proposed project includes policies and development of uses that would result in efficiencies related to transportation and adjacency of uses that would generate fewer emissions per person, development intensity under the No Project Alternative would be less than the proposed project. Under this alternative, the Upper Ridge Community Plan would not increase development potential in the Upper Ridge community with 28 parcels redesignated from Retail and Office to Mixed-use land uses in the Old Magalia and Magalia Center neighborhoods. However, under the proposed project, potential future development of up to 851 new dwelling units in the Upper Ridge community could increase the number of residents by 1,915 residents. Therefore, air quality impacts would be reduced compared to the proposed project, which would result in significant and unavoidable impacts. While impacts under this alternative would be less than those of the proposed project, they would likely also be significant and unavoidable.

7.3.1.4 BIOLOGICAL RESOURCES

Under the No Project Alternative, biological resources impacts would be similar to the proposed project. The regulations protecting biological resources in the existing General Plan would be insufficient to mitigate the impacts to biological resources to a less-than-significant level. The proposed project contains a comprehensive set of goals, policies, actions, and regulations that mitigate impacts to biological resources. Future development under this alternative, as with the proposed project, would be required to comply with local, state, and federal regulations to minimize impacts to potential sensitive natural communities. Impacts to biological resources would be significant and unavoidable and would be the same as the proposed project.

7.3.1.5 CULTURAL RESOURCES AND TRIBAL CULTURAL RESOURCES

Impacts under the No Project Alternative would be similar to the proposed project. Future development under this alternative and the proposed project could result in significant and unavoidable impacts to historic resources. Under the No Project Alternative, statutory requirements protecting cultural resources would still be in effect, but General Plan 2040 policies and actions promoting cultural resource preservation and coordination with local tribes would not be adopted. The goals, policies, standards, and actions that pertain to the designation and preservation of archaeological resources as stated in the General Plan EIR would be enforced, which would reduce impacts to less than significant. Additionally, compliance with California Health and Safety Code Section 7050.5(b) would reduce impacts to less than significant in the event that human remains are discovered during construction activities. Impacts under this alternative, as with the proposed project, would be less than significant.

7.3.1.6 ENERGY

Under the No Project Alternative, the Plan Area would be developed under the current land use plan of the County's General Plan. Under this alternative, the Upper Ridge Community Plan would not increase development potential in the Upper Ridge community with 28 parcels redesignated from Retail and Office to Mixed-use land uses in the Old Magalia and Magalia Center neighborhoods. Development intensity under this alternative would be less than the proposed project, and therefore, energy use would be reduced compared to the proposed project. Impacts under this alternative, as with the proposed project, would be less than significant.

7.3.1.7 GEOLOGY AND SOILS

Under the No Project Alternative, the Plan Area would be developed under the current land use plan of the County's General Plan. Under this alternative, the Upper Ridge Community Plan would not increase development potential in the Upper Ridge community with 28 parcels redesignated from Retail and Office to Mixed-use land uses in the Old Magalia and Magalia Center neighborhoods. Development under the No Project Alternative would be subject to the same local, State, and federal regulations as the proposed project; these regulations, as discussed in Section 5.7, *Geology, Soils, and Seismicity*, as well as mitigation measures, would reduce the potential impacts to a less-than-significant level.

7.3.1.8 GREENHOUSE GAS EMISSIONS

Under the No Project Alternative, the Plan Area would be developed under the current land use plan of the County's General Plan. Under this alternative, the Upper Ridge Community Plan would not increase development potential in the Upper Ridge community with 28 parcels redesignated from Retail and Office to Mixed-use land uses in the Old Magalia and Magalia Center neighborhoods. Development intensity under this alternative would be less than the proposed project, and therefore, energy use would be reduced compared to the proposed project. Impacts under this alternative, as with the proposed project, would be significant and unavoidable.

7.3.1.9 HAZARDS AND HAZARDOUS MATERIALS

Under both the No Project Alternative and the proposed project, new development would be subject to local, State, and federal regulations that would reduce the potential for hazards and hazardous materials impacts. However, the proposed General Plan 2040 contains new goals, policies, and actions to further reduce potentially significant impacts. New development and population growth would result in an increase in demand for emergency services during disasters, which could affect the implementation of emergency response and evacuation plans; therefore, the implementation of mitigation measures would be required to reduce impacts to less than significant. Impacts under this alternative would be similar to the proposed project and would be less than significant with mitigation incorporated.

7.3.1.10 HYDROLOGY AND WATER QUALITY

The No Project Alternative would have similar hydrology and water quality impacts as the proposed project. Future project-specific Water Quality Management Plans would be prepared that would identify best management practices for the future project. Moreover, low-impact development and water quality treatment solutions prescribed in project-specific Water Quality Management Plans would be designed to support or enhance the regional best management practices and efforts implemented by the County. Future projects would be required to comply with federal, State, and local regulations, such as the National Pollutant Discharge Elimination System (NPDES) and Stormwater Pollution Prevention Plan (SWPPP). Although development under the No Project Alternative would be subject to local, State, and federal regulations that help to address hydrology and water quality impacts, the additional policies and actions related to hydrology and water quality in the proposed General Plan Update would not be adopted. Therefore, impacts would be similar and less than significant.

7.3.1.11 LAND USE AND PLANNING

Under the No Project Alternative, the Plan Area would be developed under the current land use plan of the County's General Plan. The type of land uses allowed would be relatively similar to that which would occur under the proposed General Plan Update. The proposed project would allow for either commercial, residential, or both types of development and offers flexibility to develop housing, if desired, in the Upper Ridge Community Plan. Under this alternative, the Upper Ridge Community Plan would not increase development potential in the Upper Ridge community with 28 parcels redesignated from Retail and Office to Mixed-use land uses in the Old Magalia and Magalia Center neighborhoods.

Although neither the proposed project nor the No Project Alternative would physically divide existing communities within Butte County, the proposed General Plan Update includes new policies that would address impacts related to land use conflicts and that are not included in the existing General Plan. Impacts under this alternative, as with the proposed project, would be less than significant.

7.3.1.12 MINERAL RESOURCES

Under the No Project Alternative, the Plan Area would be developed under the current land use plan of the County's General Plan. Under this alternative, the Upper Ridge Community Plan would not increase development potential in the Upper Ridge community with 28 parcels redesignated from Retail and Office to Mixed-use land uses in the Old Magalia and Magalia Center neighborhoods. Development under the No Project Alternative would be subject to the same local, State, and federal regulations as the proposed project; these regulations, as discussed in Section 5.12, *Mineral Resources*, would reduce the potential impacts to a less-than-significant level.

7.3.1.13 NOISE

Under the No Project Alternative, the Plan Area would be developed under the current land use plan of the County's General Plan. Under this alternative, the Upper Ridge Community Plan would not increase development potential in the Upper Ridge community with 28 parcels redesignated from Retail and Office to Mixed-use land uses in the Old Magalia and Magalia Center neighborhoods. Development intensity under this alternative would be less than the proposed project, and therefore, noise impacts would be reduced compared to the proposed project. Impacts under this alternative, as with the proposed project, would be significant and unavoidable.

7.3.1.14 POPULATION AND HOUSING

The No Project Alternative would not result in an increase in new residents or additional employees to the Plan Area, beyond what is forecasted in the County's General Plan. However, because this alternative would not redesignate 28 parcels from Retail and Office to Mixed-use land uses in the Old Magalia and Magalia Center neighborhoods, it would not create additional employment opportunities or increase housing units in the Plan Area. Like the proposed project, this alternative would not displace housing or people. Under both scenarios, impacts to population and housing would be less than significant. As this alternative would not achieve some of the beneficial effects of the proposed project related to housing and employment,

such as the increase in jobs and housing units, the impact of this alternative would be greater than the proposed project but would remain less than significant.

7.3.1.15 PUBLIC SERVICES AND RECREATION

Under the No Project Alternative, the Plan Area would be developed under the current land use plan of the County's General Plan. Under this alternative, the Upper Ridge Community Plan would not increase development potential in the Upper Ridge community with 28 parcels redesignated from Retail and Office to Mixed-use land uses in the Old Magalia and Magalia Center neighborhoods. This alternative would result in a lesser increase in population and employment, compared to the proposed project. Furthermore, the No Project Alternative would not include new General Plan Update policies and actions that address public services and recreation. Impacts to public services, including fire, police, school, library, and parks and recreational services would be less than the proposed project and would remain less than significant.

7.3.1.16 TRANSPORTATION

Under the No Project Alternative, the Plan Area would be developed under the current land use plan of the County's General Plan. Under this alternative, the Upper Ridge Community Plan would not increase development potential in the Upper Ridge community with 28 parcels redesignated from Retail and Office to Mixed-use land uses in the Old Magalia and Magalia Center neighborhoods. However, under the proposed project, potential future development of up to 851 new dwelling units in the Upper Ridge community could increase the number of residents by 1,915, thereby potentially increasing vehicle miles traveled (VMT). Since the proposed project does not propose any development projects or land use changes, with the exception of the Upper Ridge Community Plan, VMT in Butte County is expected to remain largely consistent with the previous modeling and growth assumptions of the Climate Action Plan (CAP). However, the modeled VMT per capita under the proposed project exceeds that of the Butte County Association of Governments (BCAG) Regional Transportation Plan (RTP)/Sustainable Communities Strategy (SCS) in 2040. To lower the County's projected VMT and implement the strategies listed in the CAP and RTP/SCS, the proposed project includes goals, policies, and actions that aim to reduce VMT. Additionally, as stated in the proposed project, the CAP, RTP/SCS, and the Governor's Office of Planning and Research (OPR) technical advisory, a mix of uses generally leads to decreased VMT; therefore, mixed-use development of the Old Magalia parcels is likely to result in a reduction of VMT. The No Project Alternative would not include new General Plan Update policies and actions that address transportation, which includes policies that aim to ensure that VMT from future development is reduced. Impacts under this alternative, as with the proposed project, would be less than significant.

7.3.1.17 UTILITIES AND SERVICE SYSTEMS

Under the No Project Alternative, the Plan Area would be developed under the current land use plan of the County's General Plan. Under this alternative, the Upper Ridge Community Plan would not increase development potential in the Upper Ridge community with 28 parcels redesignated from Retail and Office to Mixed-use land uses in the Old Magalia and Magalia Center neighborhoods. However, under the proposed project, potential future development of up to 851 new dwelling units in the Upper Ridge community could increase the number of residents by 1,915. This alternative would result in a lesser increase in population and employment, compared to the proposed project. Therefore, impacts to the City's

infrastructure systems would be reduced under the No Project Alternative and impacts would remain less than significant.

7.3.1.18 WILDFIRE

Under the No Project Alternative, the Plan Area would be developed under the current land use plan of the County's General Plan. Under this Alternative, the Upper Ridge Community Plan would not increase development potential in the Upper Ridge community with 28 parcels redesignated from Retail and Office to Mixed-use land uses in the Old Magalia and Magalia Center neighborhoods. However, under the proposed project, potential future development could include an increase in population, buildings, and infrastructure on the Upper Ridge, which is in State Responsibility Area, Very High and High Fire Hazard Severity Zones, the wildland-urban interface, and includes areas that have historically burned from wildfires. The Upper Ridge is heavily forested and experiences hot, dry easterly winds and therefore development could exacerbate wildfire risks. This alternative would result in a lesser increase in population and employment, compared to the proposed project. Therefore, wildfire impacts would be reduced under the No Project Alternative but impacts would remain significant and unavoidable.

7.3.1.19 CONCLUSION

Impacts of the No Project Alternative would be similar for aesthetics, agriculture and forestry resources, biological resources, cultural resources, geology and soils, hazards and hazardous materials, hydrology and water quality, land use and planning, mineral resources, and transportation. Impacts to aesthetics, air quality, energy, greenhouse gas emissions, noise, public services and recreation, utilities and service systems, and wildfire would be less than the proposed project. Impacts to population and housing would be greater than the proposed project. The No Project Alternative would generally meet the project objectives, but to a lesser extent. The 28 parcels in the Upper Ridge Community Plan identified for redesignation from Retail and Office to Mixed-use land uses in the Old Magalia and Magalia Center neighborhoods would not be implemented under this alternative.

7.4 ENVIRONMENTALLY SUPERIOR ALTERNATIVE

CEQA requires a lead agency to identify the "environmentally superior alternative" to the proposed project. Because the No Project Alternative would result in an overall reduction in the level of impacts identified for the proposed project, the No Project Alternative has been identified as "environmentally superior" to the proposed project. However, in cases where the "No Project Alternative" is environmentally superior to the proposed project, the environmentally superior development alternative must be identified.

8. *Organizations Consulted and Qualifications of Preparers*

Native American Tribes

- Mooretown Rancheria of Maidu Indians
- Washoe Tribe of Nevada and California
- Mechoopda Indian Tribe
- Tsi Akim Maidu
- Berry Creek Rancheria of Maidu Indians
- United Auburn Indian Community of the Auburn Rancheria
- Estom Yumeka Maidu Tribe of the Enterprise Rancheria
- Tsi Akim Maidu
- Mooretown Rancheria of Maidu Indians
- Konkow Valley Band of Maidu
- Greenville Rancheria
- Washoe Tribe of Nevada and California

Qualifications of Preparers

PLACEWORKS

Mark Teague, AICP Principal	▪ BA, Political Science, California State University Stanislaus
Miles Barker Project Planner	▪ Master of City and Regional Planning, California Polytechnic State University, San Luis Obispo ▪ BS, Environmental Management and Protection, California Polytechnic State University, Humboldt
Jasmine A. Osman Associate I	▪ Master of City Planning, San Diego State University ▪ BA, Sustainability, Geography minor, San Diego State University
Jacqueline Protsman Rohr Associate II	▪ Master of City and Regional Planning, California Polytechnic State University, San Luis Obispo ▪ BS, Environmental Management and Protection, California Polytechnic State University, San Luis Obispo

8. ORGANIZATIONS CONSULTED AND QUALIFICATIONS OF PREPARERS

Jessica Mendoza Planner	▪ BS, Environmental Science and Management, University of California, Davis
Lexie Zimny Planner	▪ BS, Environmental Policy Analysis and Planning & Sustainable Environmental Design, University of California, Davis
John Vang Senior Associate II	▪ Master of Urban Planning, Design, & Development, Cleveland State University ▪ Juris Doctor, Cleveland-Marshall College of Law, Cleveland State University ▪ BA, Anthropology, University of California, Los Angeles
Alejandro Garcia, INCE-USA Senior Associate, Director of Noise Services	▪ BS, Acoustics, Columbia College Chicago


Butte County
• CALIFORNIA •

PLACEWORKS

101 Parkshore Drive, Suite 200
Folsom, California 95630
t 916.245.7500

www.placeworks.com

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